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PEABODY JOURNAL
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VOLUME 5 MARCH 1928 NUMBER 5

THE McMURRYS IN AMERICAN EDUCATION

CHARLES McKENNY
President, State Normal College, Ypsilanti, Mich.

To have taught fifty years is a notable thing in itself, but during that time to have rendered such service as to make for oneself a conspicuous and sure place in the history of American education is an achievement. The justification of my putting forward this paper is that I have lived long enough to have a personal acquaintance with the movements with which the McMurrys have been identified. It is one of the compensations of age to have had experience. It must be that I had some prenatal intuition of the careers that the McMurry clan would make, and managed to be born early enough to keep a watchful eye on them during their public life. My birth date is a little later than Charles' and a little earlier than Frank's, so in a certain sense I am qualified to report what my lifelong observations of these gentlemen have been.

I referred a moment ago to the McMurry clan, for Charles and Frank are not the only ones of that name who have distinguished themselves in the field of education. The McMurrys are a family of teachers. Their group includes at least ten names—ten members of the family who have engaged, several of them conspicuously, in teaching. In addition to Charles and Frank, I have the space to mention here only one—Mrs. Lyda Brown McMurry, with forty years to her credit of teaching and with a career of conspicuous service as a trainer of primary teachers in the state of Illinois.

A LOOK BACKWARD IN ELEMENTARY EDUCATION

To be able to estimate justly the contribution which the McMurrys have made to education, it is necessary to get a perspective of the his-

tory of elementary education in America. Permit me, therefore, to sketch briefly an historical background. Elementary education in America roughly may be divided into three periods. The first period reaches from the earliest settlements to about 1840, and is characterized by the evolution of the idea of a free public-school system supported by general taxation and state controlled. The concept of such a free public-school system is one of the good things which we have today that did not come over in the Mayflower—a craft, by the way, which brought at least one ancestor for most of the present population of the United States, judging from the claims one hears; nor did it come over in any other vessel that transported the early adventurers to this continent, but was rather the outcome of certain fundamental ideals which all the early settlers of America brought with them.

The first ideal was derived from the Protestant reformation. It was the conviction that the Bible is the source of religious authority, that it reveals the way of salvation, and that consequently every person ought to be able to read it. This ideal inspired early New England legislation in favor of free schools. The second ideal was the principle of democracy, which slowly gained strength during colonial times. Democracy came to mean, and still means with us today, equal opportunity for all and a government sustained by the people and for the people. Both of these conceptions of democracy made and make for education.

After experimentation in several states through the method of trial and error, these two ideals gradually triumphed, and by 1840 had become the dominant principles in American education. The struggle of these principles for supremacy has, in many of the states, an interesting history. It was especially so in Massachusetts, where the common-school revival under the leadership of James G. Carter and Horace Mann epitomized in itself the entire struggle for democratic education in America.

When the principle of free, state-controlled schools had won and the public school was accepted as a community institution, naturally the battle line shifted to the question of the expansion and improvement of the schools, especially in respect of teaching. This period reaches from about 1840 to 1890. Among the outstanding features of this epoch were the establishment of normal schools and the dominance of Pestalozzian principles and methods of teaching.

Perhaps the most significant thing during this early period was the spread and dominance of Pestalozzian pedagogy in American schools. We were a young nation. Our colleges were in the formative stage. As a people, we had been engaged with the bread-and-butter side of

life, and had been forced to give our thought and energy to pioneer enterprises incident to the development of a primitive continent and to the establishment of new social institutions. We had not had time to develop a philosophy of education or principles of teaching, and consequently had to import these from Europe; and the brand which we imported bore the stamp of the great educational reformer and teacher, Pestalozzi. But the Pestalozzianism that America adopted was not the original thought, which was current on the continent, but a modified and formalized type introduced from England into Canada and from Canada into the United States. This formalized and, in a measure, denatured Pestalozzianism was adopted whole-heartedly and enthusiastically by the Oswego Normal School, under the presidency of Edward A. Shelton, in 1860, and from that center radiated in all directions and, for the next quarter of a century, was the dominant note in American elementary education. Oswego was the Mecca of American educators. Some came to scoff, some to question and demur, but more came to approve and adopt. The extent to which the more formal phases, such as object teaching and sense training, were carried seems absurd to us today; but so does the wearing of hoop skirts by women and of whiskers by men, both of which fashions were contemporaneous with Pestalozzianism.

Meanwhile immigration was flowing into the country, wealth was accumulating, cities were growing, school systems were expanding, and scores of ambitious young men were going to Europe, especially to Germany, for the culture and scholarship which the venerable universities there had to offer. A new day in American education was dawning. The early morning light of this new day was Herbartianism. Massachusetts was the center of the common-school revival, and Oswego of the Pestalozzianism movement; but the center of educational dynamics now moved westward to Illinois, and especially localized at the Illinois State Normal University, at Normal.

There was among the students at the State Normal University of Illinois during the seventies and early eighties of the last century a group of men and women who have added luster to American education. In this group were Charles De Garmo, Charles A. McMurry, Elmer Ellsworth Brown, and Lyda Brown McMurry, a sister-in-law of Charles and Frank. Lyda Brown McMurry was for twenty-eight years a training-school teacher in the normal schools of Illinois, and as author and teacher was a recognized leader in primary education in the Middle West. Her brother, Elmer Ellsworth Brown, as United States Commissioner of Education and as chancellor of New York University, a position he still honors, has made a notable record in

the field of education. Charles De Garmo, author, college president, and, later, head of the department of education of Cornell University, was one of the leaders in American education for a third of a century.

Charles and Frank McMurry were in fast company, and they had to show speed and staying qualities to remain in the race. This they did. In that day, as legends report, ambitious young Americans went abroad to finish their education in German universities. Times have now changed. De Garmo and the McMurrys joined the scholastic pilgrimage to Germany. There they came in contact with the philosophy, the psychology, and the educational principles of Herbart, which were at that time dominant throughout Germany, and they came home disciples of Herbart and propagandists of his educational system. America was awaiting a new educational evangel, and the apostles of Herbartianism had the zeal of crusaders and were gifted both with the pen and on the platform. They put their message across.

The decades from 1890 to 1910 were thrilling days in American education. Experimental psychology had not arrived, though it was near at hand, and science had not yet to any considerable degree conquered the province of education. The bases of discussion were largely philosophy and practical individual experience; these furnished ample opportunity for diversity of opinion and debate, and debate there was. The forum was the meetings of the National Education Association and of the National Herbart Society. The protagonists included such stalwart personalities and intellects as the McMurrys, De Garmo, Francis W. Parker, W. T. Harris, and G. Stanley Hall. A teacher got his money's worth when he attended national educational meetings in those days.

The National Herbart Society was organized in 1892, with Charles De Garmo as president and Charles McMurry as secretary. Of the five yearbooks, all edited by Charles McMurry, the first three are largely devoted to Herbartian themes—the culture epoch theory, interest, apperception, correlation, the content of the curriculum, and the five formal steps in teaching.

In 1902, largely through the influence of Charles McMurry, the name of the National Herbart Society was changed to the Society for the Scientific Study of Education. A few years later the term "scientific" was dropped, and the name became, as it is now, the National Society for the Study of Education. This society, which is the direct outgrowth of the National Herbart Society, has been throughout its entire history one of the most important agencies in the investigation

of educational problems. To have been influential in bringing such an organization into existence is a matter deserving no little credit.

The two books of the Herbartian era which were outstanding in their influence on American education were *The Method of the Recitation,* by Charles and Frank McMurry, and *Elements of General Method,* by Charles McMurry. These books contained the essence of the Herbartian pedagogy. They were used as texts in teacher-training institutions, and especially normal schools, and exerted a wider influence on classroom procedure than any other books of the period.

But life is not static. It is becoming. Thought pitches its tents but a brief period in any place. It lights the camp fire in new territory before the embers of its old camp fire die out. The Herbartian movement made its contribution to American education and passed into history. Its principles and practices were tested in the crucible of scientific analysis and practical procedure, and the gold was retained while the dross was thrown away. It is a credit to the intelligence and open-mindedness of the McMurrys that they were not slow to see the limitations of Herbartianism and eagerly welcomed the new light which science and especially psychology were throwing on educational problems. The impress which the Pestalozzian and Herbartian epochs left upon our educational thought and practice has been lasting. Parker, in his *History of Modern Elementary Education,* concludes as follows: "When we select from recent educational practices those that are Pestalozzian and those that are Herbartian either in origin or character, there remain very few aspects of modern education to be discussed." To have played so great a part in so great a movement is lasting honor to Charles and Frank McMurry.

While the Herbartian period was the most outstanding single episode in the lives of Charles and Frank McMurry, it was, after all, only an episode—that is, it represented only a fraction of the conspicuous service of these two men to education. In 1898 Frank McMurry became professor of elementary education in Teachers College, Columbia University, and in his classroom he established himself as one of the greatest teachers that America has ever known. His sure grasp of the fundamentals of the processes of learning and teaching, his rare ability to stimulate discussion that was vital and pertinent, the wide range of his information, his knowledge of practical classroom problems, and his inspiring personality have made lasting impressions upon hundreds of men and women who have become leaders in education throughout America. His influence upon the teaching of geography has been notable, and his *How to Study and Teach Oth-*

ers to Study has been one of the effective books of the last twenty years.

Like his brother Frank, Charles McMurry has been a potent factor in the educational thought of his day. The versatility of Charles McMurry is attested by the fact that he has made distinguished contributions as author, lecturer, teacher, and director of the training of teachers. Few men still in service have appeared so many times upon the educational platform as Charles McMurry. My own first personal meeting with him was in 1898, in an institute in Michigan, when he expounded one of his favorite themes, the desirability of teaching whole classics instead of mere fragments. For upwards of thirty years, from the early nineties, he has been one of the outstanding platform men in the field of education, and thousands of teachers who have heard him have gone back to their classrooms with more definite ideas of how to improve their teaching and with an inspiration to do so. Few men have been able to combine platform work with productive scholarship as he has done, and it surprises one who is familiar with his work as teacher and lecturer to find that in the field of authorship he has some fifty titles to his credit. The scope of his writing includes not only the elementary field, but the field of general method and curriculum construction; and I am informed that there are soon to appear, under his name, a book on educational biography and one on the contribution of philosophy to education.

It is a great good fortune that Charles and Frank McMurry have dedicated their talents to elementary education. It was a field that, above all, needed the constructive guidance and inspiration of strong personalities, and the experience and training of comparatively few men have qualified them for leadership in this province. While most of the scholars in education were writing for a select few, Charles McMurry was devoting his energy to the assistance of the great army of teachers who were teaching below the high school. His experience as the head of teacher-training departments in Illinois normal schools gave him unusual insight into the subject matter and method of elementary instruction. The material available to the teacher was then limited, and with sincere devotion to the cause he undertook to remedy the situation. His studies in the fields of geography, reading, history, and biography were the most practical and stimulating material which came to the primary teacher of twenty years ago. If he is not the originator, he has been a consistent and effective advocate of type studies, and his publications in this field are among the most interesting and suggestive available. Today the situation regarding mate-

rials is different. The wealth of suitable materials in the field of elementary education is beyond the possibility of use.

Some years ago one of the leading educators of the country remarked to me that in his opinion Charles McMurry was prostituting his abilities to the making of money. Said he: "McMurry is one of the best-trained men in American education, but his contributions are of an elementary nature, and scarcely any of them is worthy of his standing." I replied that I looked at the matter quite differently. "Most of the higher-ups in education," I said, "are writing for a select few. They are thinking of the limited circle of the initiated, rather than of the rank and file of the teachers of the country who, after all, are most in need of their help. Charles McMurry is one exception, and he is doing as much for elementary education in the Middle West as any other individual." After a moment's reflection, he generously remarked: "Well, after all, I don't know but that you are right." I myself am certain that I was.

The sum of the educational services which Charles and Frank McMurry have made is not reached when one has totaled the parts they have played in educational movements and the contributions they have made by voice and pen. There are items which are less easily defined and which none the less are among those which will be longest remembered by a great many who have been contemporaneous with these two men. We cannot forget their lifelong and whole-hearted devotion to their profession. Some men perform a single act or write a single book, and the sum of their life story is told. There is a sudden burst of power and then a fading away. It has not been so with the McMurrys. Through their whole lives, up to the present hour, they have been virile, alert, progressive, and constructive. They have sincerely and indefatigably sought for truth and knowledge, and have courageously announced their findings to the world. In this respect their lives are worthy of emulation by the younger generation who are entering the field of education. If the many hundreds who have received help from these two men could be here today, they would say that not the least of their power lay in their genial humanity, which made them approachable and likable, which led their pupils to speak of them not only as great teachers, but as warm personal friends. One should not be called a sentimentalist who affirms that, after all, heart qualities enter into the making of a great teacher.

The resistless stream of time has flowed steadily on; years have become decades, and the McMurry brothers that I first met in the early nineties in the full strength of early manhood are now, like myself, gray-haired. Dr. Frank McMurry has retired from active

formal instruction, and Dr. Charles McMurry has reached the age of threescore years and ten, with more than fifty years of teaching to his record. As we see him among us, vigorous in body and alert in mind, I am sure that all will agree with me that he gives the lie to the almanac. Who will dare to put a limit to the years of active service which he is yet to render?

CLINICAL STUDIES IN READING

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During the last two years a clinical study has been made of the reading habits of fifty-four children in the Peabody Demonstration School who possess more or less serious deficiencies in reading. These children were first discovered by their teachers, who noted that they were poor in reading. They were then sent to the reading clinic. A careful study of the child's personal history with respect to both his home and school life was made. He was given an individual intelligence test and a battery of reading tests. These were followed by an informal test on easy reading material. After about a week's study and observation, a formal diagnosis of his reading habits was made. Remedial instruction was then undertaken with a view of correcting existing deficiencies. Each child was placed for twenty minutes each day under the charge of a graduate student who had been instructed in methods of remedial instruction. The children were taught for twelve weeks with a view of correcting their deficiencies. Each case became a problem for the graduate student, who was expected to keep a log of every day's work and to measure the progress of his subject at the end of the period. In every case in which remedial instruction has been undertaken some improvement has been made, and in most cases the improvement has been highly satisfactory. A number of cases have made more than a year's progress in twelve weeks, and in a few instances as much as two and one-half to three years of progress has been made.

Our studies indicate that the deficiencies in reading which are common to children have been discovered and are well known in the literature on the subject. Acute individual difficulties have been revealed by the excellent studies of W. S. Gray, C. T. Gray, Arthur I. Gates, Laura Zerbes, Anderson and Merton, and others. We have, therefore, accepted the terminology of these authors in our investigations, and have made no effort to originate new terms to describe the same deficiencies. In this we have assumed that it is highly desirable to standardize certain terms so that they will connote the same thing to teachers wherever they are encountered. If any new difficulties have been revealed through our own studies, they are (1) overcautiousness

in reading and (2) intellectual interest in material far too difficult for the subject to read, with little or no interest in simple, easy material.

The diagnosis of each case has revealed what might be termed a complication of disorders in reading. Reading deficiencies do not appear singly. The poor reader is usually poor because of several difficulties. One difficulty may be the cause of another. There appears to be a high correlation between certain deficiencies.

The lack of interest in reading is given as the most frequent difficulty; but lack of interest can, in practically every case, be accounted for. The child's reading habits are so poor that he derives no pleasure from reading; therefore, he is indifferent to it. As soon as he acquires desirable reading habits his interest improves. In the cases with which we have worked, interest has always followed success in reading. The surest means of securing the whole-hearted interest of a subject is to correct the deficiencies from which he may be suffering that deter him from achieving success.

Probably the most effective general procedure used in working with these cases has been to translate the difficulties which each child possesses into terms which he can understand. We find that when the child recognizes his handicap, results can be obtained with less effort on the part of the teacher. It is also highly desirable to measure the progress of the child from week to week and graph the results in such a manner that he may realize what is happening. There is no device for motivation superior to a growth curve which the child can interpret.

CASES OF DEFECTIVE READING

A random selection of a few cases from our files for the purpose of showing typical illustrations of diagnoses are given here.

CASE I.

1. Lack of interest in reading.
2. Limited vocabulary.
3. Slow rate.
4. Spells words to pronounce them.
5. Short span of recognition.
6. Displays nervous tendencies.
7. Vocalizes when reading silently.

CASE III.

1. Lack of interest in reading.
2. Short span of recognition, almost a word reader.
3. Lip movement in silent reading.
4. Ineffective eye movements.
5. Very slow in rate.
6. Oral reading halting and mechanical.

CASE V.

1. No interest in reading.
2. Inability to attack new words.
3. Inability to read silently.
4. Habit of following the line with finger.
5. Failure to recognize simple words.
6. Confusion of simple words, such as *saw* and *was*, *there* and *where*.
7. Very slow, laborious reading.

CASE VIII.

1. Lack of interest.
2. Poor in comprehension.
3. Slow in rate.
4. Lip movement.
5. Short eye span.
6. Inadequate knowledge of phonics.
7. Substitution and omission of words in oral reading.

In the fall of 1926 twelve children were discovered in our Demonstration School seriously in need of remedial instruction. Individual instruction was carried on with this group for twenty minutes each day during a period of twenty-three weeks. The children were tested with a battery of reading tests at the beginning of the period, at the end of twelve weeks, and at the end of twenty-three weeks, the close of the experiment. They were also tested nine months later to determine if the instruction was of permanent value. Diagnoses of these twelve cases disclose fourteen serious deficiencies in reading. The lowest number of disabilities in any child was two—this for a little girl in the fourth grade who had been totally deaf from birth. Most of the children experienced from six to eight difficulties, and one or two appeared to be weak in all phases of reading. A composite diagnosis of this particular group yielded the following disabilities in reading:

1. Substitutions, repetitions, omissions, and insertions
2. Short span of recognition
3. Lack of confidence
4. Ineffective eye movements
5. Speech impediment due to deafness
6. Lack of concentration
7. Interest in content developed beyond reading ability
8. Nervous instability
9. Slow rate of reading
10. Lack of interest
11. Poor comprehension
12. Inadequate phonetic training
13. Inadequate attention to content
14. Insufficient sight vocabulary

HOW THE DEFICIENCIES WERE ATTACKED

The devices, procedures, and methods used in attempting to correct the disorders of this group have been gathered together and briefly outlined under each deficiency. That some of the procedures are far more valuable than others we recognize. No attempt has been made to evaluate them.[1]

Substitutions, Repetitions, Omissions, and Insertions

1. Words similar in form, such as *ever* and *even*, *this* and *thin*, *no* and *on*, were printed on flash cards and used in word drills.

2. Easy material was employed, so that the pupil would not repeat or omit words because he was unfamiliar with a large number of the words.

3. The child's attention was called to the effect such errors have on the reading.

4. The instructor read to the pupil as he followed the line with his eyes. By being shown how to read in thought units the pupil was able to overcome repetitions due to lack of thought-getting.

Short Span of Recognition

1. After reading a selection, the pupil was asked to find phrases, such as "sweep the floor" and "mowing machine," rather than words in the context. He was asked to see how quickly he could find a phrase, to see how many times he could find it on a page. This encourages reading in thought units.

2. The pupil was told that reading in thought units is much better than reading by words. The instructor read a paragraph as an example, then let the pupil continue, trying to keep up the rhythmical movement.

3. Action phrase cards made with the typewriter were used. As soon as the pupil read the phrase he performed the act. When gone through once, the cards were shuffled and flashed again.

4. Questions requiring an answer in phrases of the story were asked. The pupil had to find the phrase, then read it.

5. Paragraphs were cut from old readers; the pupil read, then separated the words into thought units by vertical lines.

6. Short sentences, taken from the story read, were printed on cards by means of the typewriter or printing press and used as flash cards after the story had been read.

7. A paragraph would be typed in phrase groups—that is, longer spaces were left between the thought units. This paragraph was first read silently, then orally.

8. Phrases and short sentences were cut from old readers, mounted on cardboard, and flashed. Older pupils did not object to these as they did to ordinary flash cards.

9. Phrase booklets were made, and a score was kept of the number of times the phrase had to be flashed before the pupil recognized it correctly twice in succes-

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[1]For this outline the writer acknowledges his indebtedness to Miss Cleo Rainwater, who, under his direction and supervision, conducted this study.

sion. These phrase booklets were graded from very easy to difficult, and the pupil was promoted according to his ability.

10. After a story had been read and discussed, the pupil was given an exercise in which he was told to open the book to any page of the story, let his eyes fall at any place on either page, and read as rapidly as he could until told to close the book. He was given only a few seconds to read. Then he was asked to tell all the words he remembered having seen. This was done several times in succession. The pupil's ability increased with repetitions of the exercise.

LACK OF CONFIDENCE

1. The pupil was always praised for worthy effort put forth and any improvement shown.

2. Graphs and charts showing improvement in rate and comprehension were discussed frequently, and the amount of improvement pointed out.

3. The list of books read by the pupil was discussed each time a new one was added, and the pupil was praised for what he had accomplished.

4. The pupil was informed of any improvement shown by standard test scores.

5. The pupil was encouraged to prepare well a short selection and read this to his grade. The praise given by his classmates and grade teacher was very encouraging.

6. In every way possible the instructor built up in the mind of the pupil the idea that he could read.

INEFFECTIVE EYE MOVEMENTS

1. A marker was used by the pupils who were weakest along this line until some improvement had been attained. It was discarded as soon as possible.

2. In making the return sweep, the pupil would follow with his eyes a pencil as it was moved by the instructor from the end of one line to the beginning of the next.

3. The instructor read to the pupil, having him follow and note the rhythm and grouping into thought units; the pupil was then encouraged to read in the same manner.

4. Interesting material within the child's experience was given him. The fact that he was interested in what he was reading encouraged him to continue rather than to repeat.

LACK OF CONCENTRATION

1. An effort was made always to give the pupil material in which he was interested, so that he would want to give his full attention to it.

2. The pupil's attention was directed to the meanings of words and to the necessity of reading for the purpose of getting the thought.

3. Such problems as selecting the most interesting part of the story and being able to name the characters and tell what they did were given before the reading was begun.

4. The pupil was taught to outline the story.

5. The pupil was given exercises in which he had to complete sentences the portions of which were taken from the story.

6. The pupil was checked on outside reading by being asked to name big topics discussed in the material read, to describe certain characters, and to tell the most interesting portions read.

INTEREST IN CONTENT DEVELOPED BEYOND READING ABILITY

1. Easy reading material dealing with people of other lands, industries, nature, or any other live subject that made an appeal to the child, was given to him to look over and select from.

2. Fables were used, and found to be very good because they are short and complete; the child could finish a fable before becoming tired and discouraged. Yet they deal with subjects that are not childish, in the child's estimation.

3. The pupil was encouraged to ask questions about the pictures. Then he would be directed to the portion of the story that answered his question, and aided in reading it. Thus he realized that by reading he could find the answers to his questions.

4. The pupil was brought to see the necessity for reading easy, simple material in order to gain ability to read that in which he is interested.

NERVOUS INSTABILITY

1. The pupil was allowed to follow his own line of interest in the material read.

2. The pupil was permitted to set the pace of his procedure.

3. The pupil was never given material too difficult.

4. The pupil was encouraged always to complete a piece of work.

5. A spirit of companionship was created by the instructor between himself and the pupil.

6. The pupil was encouraged to discuss his likes and dislikes, and the instructor used the results of these conversations as a guide in the work.

SLOW RATE OF READING

1. The pupil was given reading drills with a time limit.

2. A graph of the number of words read in one minute was kept.

3. Vocalization and lip movement were eliminated.

4. The pupil was given a two or three-minute speed drill, and the words read per minute were determined; he was then given another speed drill to see if he could not improve on the first record.

5. Exercises in skimming were given.

6. Difficult words were taught before silent reading.

7. Interest in the selection was aroused before silent reading.

LACK OF INTEREST

1. Riddle books were made by cutting a picture from a magazine, pasting it in a notebook, and writing beneath it a riddle concerning it. The pupils read them, then guessed the riddle.

2. Mother Goose rhymes were memorized.

3. The pupil was given competitive exercises with a pupil his age.

4. The pupil composed his own story about something in which he was much

interested; the teacher took it down as he dictated it, typed it, and brought it to class for the child to read. The pupil was permitted to illustrate his stories and then read them to his class.

5. Reading lessons telling the reader to perform some act were used. As soon as the pupil read the sentence he performed the act.

6. The pupil was permitted to select his own reading material if he wished to.

7. The pupil was shown the necessity of reading skill through walks in the community in which the instructor called his attention to signs such as: "Stop," "Open," "Come In," "Closed," "No Left Turn," etc.

8. Graphs and charts of records in rate and comprehension were kept.

9. Story booklets were made by collecting and binding together stories the pupil liked.

10. The teacher would read enough of a story to get the pupil interested, then stop for the pupil to finish.

11. The pupil was given work in phrase booklets unequal in difficulty. He was promoted to accord with his ability to read or recognize.

12. Books containing many interesting pictures and only a little reading were placed in the child's hands.

13. Short, interesting stories were cut from old readers, mounted, and given to the child to read.

14. The pupil was encouraged to bring books from home, if he is interested in any.

POOR COMPREHENSION

1. The Standard Test Lessons by McCall and Crabbs were used. By means of these the pupil was given an exercise for the improvement of both the rate and the comprehension of each lesson. He was checked on the comprehension, and a chart showing his scores was kept. These were compared with the grade scores.

2. Specific questions were asked; then the pupil read to find the answers.

3. The pupil was asked to read, then reproduce the story orally.

4. Comprehension graphs were kept, in some instances.

5. The meanings of certain prefixes and suffixes were taught.

6. Comprehension was tested by true-false tests, completion tests, and selection tests.

7. Rate was not stressed with pupils low in comprehension.

INADEQUATE PHONETIC TRAINING

1. The pupil was encouraged to look for the familiar parts of words.

2. The sounds of the consonants were taught.

3. Certain phonograms and families were taught.

4. Similar known words that the pupil confused were grouped for drill.

5. Always the training was given as a need for it was felt, and it began with words taken from the lesson.

6. Words in the reading that the pupil did not know were placed on the board and analyzed phonetically.

7. A few rules governing pronunciation of words were taught.

8. Syllabication of words was taught, beginning with words furnished by the pupil.

9. Clear enunciation in oral reading was insisted upon.

10. The pupil was encouraged to bring to class a list of words whose initial sound was that of a consonant taken up in class.

11. Lists of words in the backs of the readers were used for drill and review.

12. Contest games were used in phonetic drill.

INADEQUATE ATTENTION TO CONTENT

1. The pupil was always checked in some way on the thought of the material read.

2. Definitions of words were developed from the context.

3. Factual and thought questions on the content were asked.

4. The pupil was often asked to reproduce the story read.

5. The pupil was asked to read aloud to the teacher, being warned to read so as to make clear the thought, and being stopped and questioned if he failed to do this.

6. A problem was assigned, to be answered after the silent reading.

7. The pupil was asked to write titles for paragraphs.

8. The pupil was asked to illustrate the story, re-reading if necessary.

INSUFFICIENT SIGHT VOCABULARY

1. New words were taught through drills and games.

2. Easy material that necessarily brought the child in contact with the same words many times was given.

3. Words were learned through reading the story more than once in order to illustrate it well.

4. Reviews of vocabulary were given by means of flash cards, board work, and the use of the vocabulary given in the book being read.

5. Much oral reading was given.

6. A record was kept of the words miscalled by the pupil; this was given to the pupil. In the case of upper-grade pupils the dictionary was used, and an effort was made to encourage remembering correct pronunciations; with younger pupils these were made the basis for drill.

7. Upper-grade pupils were taught how to use a dictionary.

There are certain tentative conclusions which our data would appear to justify.

1. Individual remedial instruction is of great value to the child who possesses marked disabilities in reading. The value of this instruction, however, depends on the correct diagnosis of the child's deficiency in reading and the vigor with which both the child and the teacher attack the weakness.

2. Procedures, devices, and methods used in remedial cases have not yet been fully evaluated. Much experimentation is needed to stand-

ardize these procedures, devices, and methods and to determine their relative merits.

3. Children in grades one to five make much greater progress under remedial instruction than children in grades six and seven. The improvement in the upper grades is not commensurate with the improvement made in the earlier grades. One is probably safe in concluding that the earlier the remedial instruction is administered, the greater the gains will be.

4. In our experiment children continued to show improvement when remedial instruction was continued over a period of twenty-three weeks; however, for most children the first half of the period yielded much greater return than the second half.

5. We answer the question: Does remedial instruction pay? Tests given nine months after the period of instruction show that every child made a higher score on the Thorndike-McCall Reading Scale and the Monroe Standardized Silent Reading Test, Revised, and all but two children improved on the Stanford Reading Tests. Most of these children are now making normal progress in reading.

THE HIGH-SCHOOL SCIENCE LIBRARY FOR 1928

HANOR A. WEBB
(Editor of *Current Science*)
George Peabody College for Teachers

For the fourth time[1] we are privileged to select and recommend science books for the high-school library. We have had each volume in our hands, and have turned the pages with only the interest and the interests of high-school students as criteria in the choice. The titles, with few exceptions, are new issues of the calendar year 1927. Some are new editions of older works still popular—a sign of value. The examination has been as comprehensive as the generous coöperation of publishers would permit.

A slight change has been made in the dating of this annual list. In sequence with those previously published, it would be the compilation for 1927. "But," writes an observing, if meticulous, librarian, "the high-school library is of 1928; merely the imprints are of 1927." The idea is correct—we adopt it. Future lists will use the more appropriate dating.

The arrangement of titles follows the plan of previous lists, which emphasizes three matters:

First, even the smallest purchase of books should cover a variety of science fields. "The librarian should have an airplane view of science." High-school pupils are not specialists.

Second, if purchases are to be made at intervals during the year, there may be advantage in buying by seasons. Autumn purchases need not include books on gardening—there is a more appropriate time. The list that follows is to some degree adapted to seasonable interests.

Third, the librarian usually knows how much money there is to be spent before the titles themselves are known. Selection is largely a matter of meeting a budget.

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[1]The preceding articles in this series are:

"The High-School Science Library—1910-1924," PEABODY JOURNAL OF EDUCATION, Vol. 3, No. 2, 85-119 (September, 1925). Bound reprint, 25 cents.

"The High-School Science Library for 1925," PEABODY JOURNAL OF EDUCATION, Vol. 3, No. 6, 340-347 (May, 1926). Bound reprint, 10 cents.

"The High-School Science Library for 1926," PEABODY JOURNAL OF EDUCATION, Vol. 4, No. 6 (May, 1927). Bound reprint, 10 cents.

THE PRICE GROUPS

There are five price groups. Ten dollars will purchase the suggested list of science books of the greatest variety and value—in our judgment—available for this minimum sum; $15 additional completes the $25 list; $25 additional completes the $50 list; $50 additional completes the $100 list; $100 and more would secure the remainder.

To avoid misinterpretation, it should be noted that each price group *includes* all those below it. The books listed in connection with the $50 symbol are merely the additions beyond the $10 and the $25 lists to compose a total purchase of $50.

The arrangement of titles left over after one hundred dollars' worth have been classified is again according to price. That a book is in this large group does not condemn it, for at times almost inconsequential differences must determine which of two books in a certain field shall be the more highly recommended.

After deciding upon the four price groups, it was considered inexpedient to extend the ranking to the titles remaining. The brief annotations, however, will attest their value and be of service to librarians in their choice.

A certain strong feeling possesses us as this list lies completed and checked before us. How generous an annual appropriation of $100 for science books may seem! Yet, in contrast, what a small proportion of the year's production of books specially designed for the high-school science library this sum will buy! Authors and publishers, indeed, are sparing no effort to serve us; we should be most appreciative and utilize the offerings of their energy as liberally as circumstances will possibly allow.

PUBLISHERS AND THEIR ADDRESSES

In the list that follows, publishers are indicated briefly. The full name and address of each publisher there referred to are here given:

American Book: American Book Co., 300 Pike St., Cincinnati, O.
American Nature: American Nature Asociation, 1212 16th St., N. W., Washington, D. C.
American Telephone: American Telephone and Telegraph Co., 195 Broadway, New York City.
American Tree: American Tree Association, 1214 16th St., N. W., Washington, D. C.
Appleton: D. Appleton & Co., 35 W. 32d St., New York City.
Bobbs: Bobbs-Merrill Co., 18 University Square, Indianapolis, Ind.
Boy Scouts: Boy Scouts of America, 2 Park Ave., New York City.
Bruce: Bruce Publishing Co., 129 Michigan St., Milwaukee, Wis.
Chemical: The Chemical Foundation, 85 Beaver St., New York City.

Chicago Press: University of Chicago Press, 5750 Ellis Ave., Chicago, Ill.
Chilean Nitrate: Chilean Nitrate Committee, 25 Madison Ave., New York City.
Comstock: Comstock Publishing Co., Ithaca, N. Y.
Consrad: The Consrad Co., 230 Fifth Ave., New York City.
Crowell: T. Y. Crowell Co., 387 4th Ave., New York City.
Duffield: Duffield & Co., 200 Madison Ave., New York City.
Dutton: E. P. Dutton & Co., 681 5th Ave., New York City.
Educational Screen: The Educational Screen, 5 S. Wabash Ave., Chicago, Ill.
Gernsback: Sidney Gernsback, 230 5th Ave., New York City.
Ginn: Ginn & Co., 15 Ashburton Place, Boston, Mass.
Globe: The Globe Book Co., 175 5th Ave., New York City.
Henley: The Norman W. Henley Publishing Co., 4 W. 45th St., New York City.
Houghton: Houghton Mifflin Co., 2 Park St., Boston, Mass.
Iroquois: Iroquois Publishing Co., University Block, Syracuse, N. Y.
Jones: Marshall Jones Co., 212 Summer St., Boston, Mass.
Judd: Orange Judd Publishing Co., Inc., 15 E. 26th St., New York City.
Knopf: Alfred A. Knopf, Inc., 730 5th Ave., New York City.
Lea: Lea and Febiger, 600 S. Washington Sq., Philadelphia, Pa.
Little: Little, Brown & Co., 34 Beacon St., Boston, Mass.
Lothrop: Lothrop, Lea & Shepard Co., 275 Congress St., Boston, Mass.
McClurg: A. C. McClurg & Co., 333 E. Ontario St., Chicago, Ill.
McKay: David McKay Co., 604 S. Washington Sq., Philadelphia, Pa.
McKnight: McKnight & McKnight, Normal, Ill.
Macmillan: The Macmillan Co., 60 5th Ave., New York City.
Manual Arts: The Manual Arts Press, 237 N. Monroe St., Peoria, Ill.
Maqua: The Maqua Co., Schenectady, N. Y.
Norton: W. W. Norton & Co., 70 5th Ave., New York City.
Oxford: Oxford University Press, American Branch, 35 W. 32d St., New York City.
Prentice: Prentice-Hall, Inc., 70 5th Ave., New York City.
Putnam: G. P. Putnam's Sons, 2 W. 45th St., New York City.
Reilly: Reilly & Lee Co., 536 Lake Shore Drive, Chicago, Ill.
Row: Row, Peterson & Co., Evanston, Ill.
Scribner: Charles Scribner's Sons, 597 5th Ave., New York City.
Southern: The Southern Publishing Co., 2015 Jackson St., Dallas, Tex.
Spon: Spon & Chamberlain, 120 Liberty St., New York City.
Van Nostrand: D. Van Nostrand Co., 8 S. Warren St., New York City.
Webb: Webb Publishing Co., 55 E. 10th St., St. Paul, Minn.
Williams: The Williams & Wilkins Co., Mount Royal and Guilford Aves., Baltimore, Md.
World: World Book Co., Yonkers-on-Hudson, N. Y.

BOOK LIST, 1927 PUBLICATIONS IN SCIENCE

TITLE, AUTHORSHIP, PUBLISHER, AND RECOMMENDED GROUPS

INTRODUCTIONS TO SCIENCE

Price Group

THE SPIRIT OF SCIENCE

$10 *Wonders of Science* (*School Edition*). Edited by Eva March Tappan. xiv, 257 pp. Houghton ---------- $ .96

Thirty-five short, novel stories—classics, rather—from the literature of science.

$50 *The Romance of Reality.* By Beverly L. Clarke. xii, 225 pp. Macmillan ---------- 2.25
A "best seller" of vivid science—chiefly physics and chemistry.

$100 *Classics of Modern Science* (*Copernicus to Pasteur*). Edited by William S. Knickerbocker. xvi, 384 pp. Knopf ---------- 2.50
Inspiring source material from four centuries of master scientists.

Over $100 *Science and Poetry.* By J. A. Richards. 96 pp. Norton ---------- 1.00
Comparisons and contrasts of expression and appreciation.

To Begin With. By Raymond Pearl. x, 96 pp. Knopf ---------- 1.50
A slyly satirical volume, telling the scientist how not to take himself too seriously, yet keep his dignity. For seniors.

Our Surroundings. By Arthur G. Clement, Morton C. Collister, and Ernest L. Thurston. xii, 628 pp. Iroquois ---------- 1.60
A general science text, with emphasis on physics and physiology.

The Book of Puzzles. By A. Frederick Collins. xvii, 190 pp. Appleton 2.00
Puzzles are often scientific.

History of the Sciences in Greco-Roman Antiquity. By Arnold Reymond. x, 245 pp. Dutton ---------- 2.50
Many modern scientific theorems were anticipated by the ancient philosophers.

Science, Leading and Misleading. By Arthur Lynch. 376 pp. Dutton 3.00
A "disturbing volume" that punctures some pretensions, but respects honesty.

Exploring the Universe. By Henshaw Ward. viii, 353 pp. Bobbs--- 3.50
A bold title; a brave, dashing author; a comprehensive book for older students.

Essays on Popular Science. By Julian S. Huxley. xviii, 316 pp. Knopf 4.00
The grandson of the great biologist writes rather profoundly in places.

The Nature of the World and of Man (*Revised Edition*). Edited by H. H. Newman. xxiv, 562 pp. Chicago Press ---------- 4.00
Reference work of science foundations in sixteen fields. Not beyond seniors.

Physics and Chemistry

$50 *Marvels of Modern Mechanics.* By Harold T. Wilkins. xii, 280 pp. Dutton ---------- 3.00
Applied physics in the work of the world.

$100 *The Story of Chemistry.* By Floyd H. Darrow. xii, 528 pp. Bobbs-- 4.00
Simple but authoritative facts "not yet in the textbooks" for the general reader.

Over $100 *Chemical Calculations.* By Ernest L. Dinsmore. vi, 182 pp. Globe-- 1.20
Drill for both weak and strong.

Beginning Chemistry and Its Uses. By Frederick C. Irwin, Byron J. Rivett, and Orett Tatlock. viii, 607 pp. Row ---------- 1.60
A practical text for use or reference.

High-School Chemistry. By W. N. Masters and L. P. Floyd. ii, 509 pp. Southern ---------- 1.60
The newest text; introducing electrons in the first chapter; practical for use or reference.

Practical Chemistry. By N. Henry Black and James B. Conant. xii, 524 pp. Macmillan ---------- 1.80
A popular high-school text brought up to date.

Elements of Chemistry. By Harry N. Holmes and Louis W. Mattern. xii, 519 pp. Macmillan ---------- 1.80
Particularly rich in new diagrams and photographs.

The Chemical Elements and Their Compounds. By J. A. V. Butler. xii, 205 pp. Macmillan ---------- 2.00
Primarily reference on atoms and electrons.

Introductory Chemistry. By Neil E. Gordon. xx, 608 pp. World---- 2.20
Very up-to-date, especially on atomic structure. By the editor of the *Journal of Chemical Education.*

The Logic of Modern Physics. By P. W. Bridgeman. xvi, 228 pp. Macmillan ---------- 2.50
An advanced examination of new foundations of our physical thought. Includes much Einstein.

Makers of Science—Electricity and Magnetism. By D. M. Turner. xvi, 184 pp. Oxford ---------- 2.50
The methods—and much of the personality—of great experimenters.

The Principles of Chemistry and Their Application. By Eleanor H. Bartless and Katharine Ink. x, 418 pp. Macmillan ---------- 3.00
A textbook for nurses; rather comprehensive in the organic chapters.

General Chemistry. By Azariah T. Lincoln and George B. Banks. xxiv, 681 pp. Prentice ---------- 3.50
One of the largest, clearest, newest college texts for high-school reference.

The Rise of Modern Physics. By Henry Crew. xv, 356 pp. Williams 5.00
Stories of the birth and evolution of fundamental principles.

THE HOME AND COMMUNITY

$10 *Chemistry and the Home.* By Harrison E. Howe and Francis M. Turner, Jr. xii, 355 pp. Scribner ---------- $1.50
Bursting with practical chemical information, and written for "home folks."

The Boys' Book of Experiments. By A. Frederick Collins. xii, 315 pp. Crowell ---------- 2.00
An aid to eager experimenters; much old, some new, all interesting.

$25 *"1,000 and One"—The Blue Book of Non-Theatrical Films.* By Nelson L. Greene and others. 132 pp. Educational Screen ---------- .75
Very rich in science titles.

Household Carpentry. By L. M. Roehl. xii, 196 pp. Macmillan ---------- 1.50
Very practical indeed.

Everyday Electricity. By Joseph R. Lunt. xii, 297 pp. Macmillan ---------- 1.60
Strictly high-school style; includes radio.

$50 *History of the Incandescent Lamp.* By John W. Howell and Henry Schroeder. 208 pp. Maqua ---------- (?)
Every step from before Franklin to the "electric eye." Given free, under certain conditions.

$100 *The Modelmaker.* By W. Edmonds Spon, Editor. 256 pp. Spon ---------- 1.00
Practical physics in a most fascinating hobby.

Machine Shop Science. By Joseph J. Eaton and Albert V. Free. 181 pp. Manual Arts ---------- 1.48
The machinist is a practical physicist, and—at times—a chemist.

Essentials of Electrical Work. By George A. Willoughby. 242 pp. Manual Arts ---------- 1.60
Stressing safety and convenience.

Wood and Lumber. By A. C. Newell. 211 pp. Manual Arts ---------- 2.25
Excellent reference for the woodworkers.

The Book of Opportunities. By Rutherford H. Platt, Jr., and Rebecca T. Farnham. xii, 477 pp. Putnam ---------- 3.00
What 3,000 American occupations—including scientific ones—have to offer to ambitious graduates.

Over $100 *Industrial Arts and the Museum.* By Charles R. Richards. viii, 102 pp. Macmillan ---------- 1.50
Handiwork in American and European museums.

Color-Sense Training and Color Using. By E. J. Taylor. 88 pp. McKay ---------- 1.50
Leading physics students into art appreciation.

Steps in Industry. By Edmond E. Lincoln. xvi, 215 pp. Macmillan ---------- 2.00
The science of economics as a basis for the economies of practical science.

Homemaking, A Profession for Men and Women. By Elizabeth and Forrester Macdonald. viii, 267 pp. Jones ---------- 2.00
A serious—at times profound—book on the knowledge we need for the best home life.

Playing With Clay. By Ida M. Wheeler. xii, 116 pp. Macmillan ---------- 2.00
Art applied to the oldest building material.

The Boy's Busy Book. By Chelsea Fraser. viii, 471 pp. Crowell ---------- 2.50
Chiefly for busy hands, but heads also serve.

Ship Model Making. By E. Armitage McCann. Vol. I, xvi, 129 pp.; Vol. II, xx, 205 pp.; Vol. III, xvi, 205 pp. Henley: each volume, price 2.50
A most interesting hobby of handicraft is fully outlined. Volume III describes a model of "Old Ironsides."

Interior Decoration for the Small Home. By Amy L. Rolfe. xx, 169 pp. Macmillan ---------- 2.75
Science, useful and beautiful, applied to home needs.

New Towns for Old. By John Nolen. xxxii, 177 pp. Jones---------- 3.00
Actual projects of town and city planning, and the science involved.

Model Making. By Raymond Francis Yates. 428 pp. Henley-------- 3.00
Careful directions for pursuing a most interesting hobby of handicraft.

Mechanics of Materials. By George Young, Jr., and Herbert Eugene Baxter. x, 451 pp. Macmillan---------- 4.00
The physics of things used for building; rather advanced.

THE CLOTHING WE WEAR

$50 *Textile Fabrics.* By Elizabeth Dyer. xii, 366 pp. Houghton---------$1.75
Emphasis on judging fabrics; how to buy or sell them.

Over $100 *Clothing Construction.* By Clara M. Brown and others. xiv, 236. Ginn ---------- 1.72
The science of sewing from "bands" to "tucks."

THE FORMS OF LAND AND WATER

$50 *The Ocean and Its Mysteries.* By A. Hyatt Verrill. xvi, 189 pp. Duffield ----------$1.50
Stories of the sea, based on the adage that "truth is stranger than fiction."

The Earth and Its History. By John Hodgdon Bradley. ix, 414 pp. Ginn ---------- 2.60
A new elementary geology, emphasizing how life has been modified by its surroundings.

$100 *The Earth and Its Rhythms.* By Charles Schuchert and Clara M. LeVerne. xvi, 410 pp. Appleton ---------- 4.00
Geology translated—fascinating stories of the forces that made the planet what it is, and will make it what it is to be.

Over $100 *Coal and the Coal Mines.* By Homer Greene. x, 225 pp. Houghton ---------- 1.24
The geologic, economic, and human story of the world's chief fuel.

Soil Mineralogy. By Frederick A. Burt. viii, 82 pp. Van Nostrand_ 1.50
Not names alone, but appearances, and laboratory tests on "the rocks that rot to soil."

A Shorter Physical Geography. By Emmanuel de Martonne; E. D. Laborde, translator. xvi, 338 pp. Knopf---------- 5.00
The work of a leading French geographer, who has a world viewpoint.

EXPLORATION AND TRAVEL

$10 *Everybdoy's Aviation Guide.* By Victor W. Pagé. 256 pp. Henley (1928) ----------$2.00
Adapted to younger enthusiasts, with background of physics.

$25 *Charles Lindbergh—His Life.* By Dale Van Every and Morris De Haven Tracy. xvi, 236 pp. Appleton----------2.00
Every step, from a baby to a man with the world at his feet.

$50 *Friends in Strange Garments.* By Anna Milo Upjohn. xii, 148 pp. Houghton ---------- .92
The friends—mostly children; the garments—styles of far-off lands.

$100 *The Young Folks' Book of Other Lands.* By Dorothy Margaret Stuart. x, 329 pp. Little ---------- 2.00
How people live is synonymous with how much—or little—science they use.

Heroes of Modern Adventure. By T. C. Bridges and H. Hessell Tiltman. x, 277 pp. Little ---------- 2.00
Here, indeed, *are* thrills. Amundsen, Cobham, Rosita Forbes, Lawrence of Arabia, Lindbergh—these are but some of those for whom sagas should be sung!

The World's Railways. By C. Gibbard Jackson. 165 pp. McKay---- 3.50
A traveled Englishman gives a truly world-wide view of the "iron horse" in all its forms. Much history, too.

Over $100 *Australia, the Philippines, and Other Islands of the Sea (Revised).* By Frank G. Carpenter. 432 pp. American Book ---------- $ .96
Word pictures vie with photographs showing how life is lived in these far-off regions.

Kak, the Copper Eskimo. By Vilhjalmur Stefansson and Violet Irwin. xii, 253 pp. Macmillan ---------- 1.50
Stories of far-Northern life, based on realities.

The Boy With the U. S. Navy. By Francis Rolt-Wheeler. xi, 264 pp. Lothrop ---------- 1.75
A splendid story of life aboard our fighting ships.

Black Sunlight. By Earl Rossman. xii, 231 pp. Oxford ---------- 1.75
A tenderfoot moving-picture cameraman goes with Stefansson to the land of the Eskimos.

Alice in Jungleland. By Mary Hastings Bradley. xiv, 171 pp. Appleton ---------- 2.00
A tiny girl draws pictures for a book on African travel written by her mother.

Heroes of Aviation. By Laurence La Tourette Driggs. xxviii, 246 pp. Little ---------- 2.00
Graphic stories of the aces of the Allies.

My Life With the Eskimos (Abridged Edition). By Vilhjalmur Stefansson. xxii, 382 pp. Macmillan ---------- 2.00
Thrilling stories of a long visit.

Modern Automobile Painting. By Marvin James Pearce. 296 pp. McKay ---------- 3.00
Very practical concerning the use of the new lacquers, and other up-to-date materials.

Cleared for Strange Ports. By Mrs. Theodore Roosevelt, Richard Derby, and Kermit Roosevelt. xii, 254 pp. Scribner ---------- 3.50
The Roosevelt family has the "wanderlust." The stories are of great hunting in distant lands.

Hunting and Adventure in the Arctic. By Fridtjof Nansen. vi, 462 pp. Duffield ---------- 4.00
Dangers and thrills on a scientific voyage.

Diesel Engines: Marine—Locomotive—Stationary. By David Louis Jones. xvi, 565 pp. Henley ---------- 5.00
Full description and illustration of this most efficient and intricate power plant. Fine for strong physics students.

Modern Aircraft. By Victor W. Pagé. xvi, 855 pp. Henley ---------- 5.00
Strictly up-to-the-minute instruction for aviation students, airplane mechanics, field officials. Very complete; very clear.

HOW WE COMMUNICATE

$10 *The Magic of Communication.* By John Mills. 47 pp. American Telephone ---------- free
The annual tell-you-how story of the telephone, brought as far as television.

$25 *Radio Encyclopedia.* By Sidney Gernsback. 168 pp. Gernsback ---- $2.00
Radio from A to Z, with lavish diagrams.

Over $100 *The Radio Educator.* By Sidney Gernsback. Vols. I to V, 48 pp. each. Consrad ---------- 1.97
A reading course; clear, illustrated, particularly helpful as to fundamentals of radio.

On the Air. By Paul D. Augsburg. vi, 274 pp. Appleton ---------- 2.00
Eighteen stories of humor, pathos, romance, adventure, in which the radio always plays a part.

WORLDS THAT TRAVEL THROUGH SPACE

$50 *The Fundamentals of Astronomy.* By S. A. Mitchell and C. G. Abbot. xii, 307 pp. Van Nostrand ---------- $3.00
Concise, up-to-date, scientific. The "fundamentals" rather than the "marvels."

Over $100 *Modern Astronomy, Its Rise and Progress.* By Hector Macpherson. 196 pp. Oxford ---------- 2.00
An English book that gives due credit to American astronomers, and enlarges our acquaintance with continental observers.

Astronomy for Young Folks. By Isabel M. Lewis. xiv, 267 pp. Duffield ---------- 2.00
Accuracy linked with interest in every aspect of the heavens.

Splendors of the Sky. By Isabel M. Lewis. vii, 343 pp. Duffield----- 2.00
Reprinted chapters from newspaper articles.

LIVING CREATURES OF EARTH

The Living World

$10 *The Nature Almanac.* Edited by Arthur Newton Pack and E. Laurence Palmer. viii, 312 pp. American Nature----------$1.00
Indispensable reference to the teacher of nature study. Tells clearly just how others are succeeding in the nature program over the nation. Full of practical outlines, book lists, etc.

$100 *The Laws of Living Things.* By Edward J. Menge. 530 pp. Bruce--- 1.72
A unique biology, which does not believe in dissection, either of specimens or principals, but in the growth of plants, animals, and students' minds.

Recitations for Younger Children. Compiled and edited by Grace Gaige. xviii, 215 pp. Appleton ---------- 2.00
Included because of groups of clever poems on "Birds, Bugs, and Beasts;" "Flowers;" "God's World;" and—appropriately—"Manners."

Over $100 *Nature Study and Health Education.* By Alice Jean Patterson. McKnight. Fourth Year, xii, 131 pp., 72c; Fifth Year, 192 pp., 72c; Sixth Year, 224 pp. ---------- .76
Although designed for grammar grades, this series will furnish excellent review and reference for high-school students. Large student notebooks accompany each volume. Teacher's manual (24c) is published.

Nature Study and Science for Intermediate Grades. By Gilbert H. Trafton. xxvi, 367 pp. Macmillan ---------- 1.20
By no means too simple for high-school pupils to enjoy. Not confined to plants and animals.

The Way Life Begins. By Bertha Chapman Cady and Vernon Mosher Cady. 80 pp. Duffield ---------- 1.50
Another printing of those helpful life stories—from a lily to a child. The deeper meaning of nature study.

The Unity of Life. By H. R. Royston. 281 pp. World---------- 2.00
Detailed description of many plant and animal forms—to prove the point that all are kin.

Manual of Biological Forms. By George A. Baitsell. xvi, 411 pp. Macmillan ---------- 2.50
A college text, organized by plant and animal families, suitable for high-school reference.

Fieldbook of Nature Study. By E. Laurence Palmer. Comstock------ 3.25
In five parts; tables and drawings of an exceedingly large variety of living forms; uniquely usable.

Foundations of Biology. By Lorande Loss Woodruff. xxvi, 546 pp. Macmillan ---------- 3.50
A liberally illustrated, well-organized college text, recommended for high-school reference.

Life on the Farm

$25 *Nature in Agriculture.* By Walter L. Conway, Harry N. Kauffman, and William H. Lancelot. 248 pp. Webb (1928)---------- 1.20
Intended to give an appreciation of agriculture through nature study.

$50 *Chemistry in Agriculture.* Edited by Joseph S. Chamberlain and C. A. Browne. xiv, 384 pp. Chemical ---------- 1.50
Highly recommended, even for city students.

$100 *Making Your Own Market.* Edited by Russell Lord and Tom Delohery. xvi, 99 pp. Macmillan ---------- 1.25
A handbook of experience in selling farm products scientifically and successfully.

Over $100 *A Bucolic Attitude.* By Walter P. Eaton. vi, 74 pp. Duffield-------- 1.00
A city dramatic critic defends country life.

Balancing the Farm Output. By W. J. Spillman. 126 pp. Judd----- 1.25
Thoughtful plans for making farming profitable.

These Changing Times. By E. R. Eastman. xvi, 257 pp. Macmillan 2.50
What is to become of American farming as our cities continue to grow? Some answers—cheerfully prophetic.

The Farm. By Eugene Davenport. xx, 462 pp. Macmillan 3.50
Scientific presentations of things the farmer must know to "take the long look ahead."

PLANTS OF FOREST, FIELD, AND GARDEN

$10 *Food for Plants* (*New Edition*). By William S. Myers. 236 pp. Chilean Nitrate. To teachers free
Richly descriptive of experimental fertilizer studies.

The Forestry Primer (*1927 printing*). By Charles Lathrop Pack. 36 pp. American Tree. To teachers free
Fifteen lessons that no American should miss. Nearly 2,000,000 copies already printed.

$25 *What Tree Is That?* By E. G. Cheyney. xviii, 185 pp. Appleton 2.00
For those who know no botany, yet would know trees.

$50 *Flowers for Every Garden.* By Louise Bush-Brown. viii, 194, pp. Little 1.75
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A STUDY OF THE RELATIONSHIP OF SCHOLASTIC MATURITY AND SCHOLARSHIP AS SHOWN BY COLLEGE MARKS

EDWARD B. MERSEREAU
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This paper reports a study which was made to determine whether there is a relationship between scholastic maturity and scholarship as shown by college marks, and, if there is, to determine the extent of that relationship. By "scholastic maturity" is meant the amount of college work that the student has had.

One of the problems of undergraduate education is that of differentiation of the courses in the junior and senior college—i. e., between the so-called "upper and lower" groups of classes. This study is an attempt to make a contribution to the problem of differentiation, in that the following questions are asked:

In the first place, will the marks of students who are more mature be better or worse than those of students who are less mature?

In the second place, will the marks of the same students show an improvement or not as the students mature?

In the third place, if there are differences in marks in relation to maturity, where along the path of growth are the greatest differences found?

The study is an attempt to answer these questions within the limitation of the data in hand.

THE DATA

The data for this study were taken directly from the records of students in Baylor University, as found on the official books in the registrar's office of that institution. There are two separate groups of data, as follows:

The first group consists of all final term marks given to students attending Baylor University in the fall quarter, 1925. In this study this group will be designated and referred to as the F '25 group. Only marks covering full majors for the quarter were taken. The term "major," as here used, is five hours of class work per week for twelve weeks. These data, therefore, consist of the 4,182 marks of 1,449 students.

The second group of data consists of all marks made by a certain

group of students during their entire four-year college career in Baylor University. As these students were seniors when the present study was made, they are called "present seniors" throughout this study. The basis of selection of this group was that each student be a senior and have taken all his college work in Baylor University. This gave 77 individuals, with 2,613 marks.

Thus these two groups afford two lines of comparison—namely, that of the achievements of different individuals of different maturity, and that of the achievements of the same individuals as they became progressively more mature.

METHOD OF STUDY OF THE MARKS

It might be noted here that in this study the cases consist of marks, not the averages of individual students. The university gives five marks—namely, *A*, *B*, *C*, *D*, and *F*—in which *A* is the highest and *F* is failure. The catalogue of the university specifies that these letters have approximately the following percentage values: *A*, 90-100; *B*, 80-90; *C*, 70-80; *D*, 60-70; *F*, below 60. These numerals were therefore employed in the computations of the present study. The grade *A* was considered to cover the percentage range, 90-99.99; *B*, from 80-89.99; etc.; and the midpoints of the ranges—i. e., 95, 85, 75, etc.—were used for computation. For *F*, which has no fixed percentage value, it was decided to use 50 as representing, as fairly as possible, the probable variations. Another phase of the study had to be definitely defined—that is, the meaning of scholastic maturity. Accordingly, all those students who had less than 9 majors to their credit were put in a group which was called "freshman;" those having passed 9 majors and less than 18 were classified as "sophomore;" those with 18 and less than 27, "junior;" those with 27 and less than 36, "senior;" and those with 36 or more, "graduate." These terms do not conform to the technical classifications of the university, but are arbitrary ones to denote progressive degrees of advancement in scholastic maturity. The groups will be referred to, in speaking generally, as classes.

In agreement with the above conditions, the data were thrown into distributions of the marks for each of the classes. Percentages of occurrence of each of the grades were found. Other instruments of measurement were computed—viz., the mean, sigma, a measure of skewness, and a transmuted score.[1]

The solution of the problem was then attempted in two ways, as follows:

First, comparisons were made between the classes of the F '25 group

[1]Called *V* score in this study.

as a whole by means of percentages, means, sigmas, skews, and *V* scores.

Second, similar comparisons were made between the marks of the present seniors when they were freshmen, sophomores, juniors, and seniors. Here the graduate class was omitted on account of paucity of numbers.

A STUDY OF THE GRADES OF 1,449 STUDENTS, FRESHMAN TO GRADUATE

In Table I may be seen the distributions of the marks of the F '25 group. From the percentages given in this table it can be seen clearly

TABLE I

DISTRIBUTIONS BY CLASSES OF THE MARKS OF THE F '25 GROUP

MARKS	CLASSES									
	Freshman		Sophomore		Junior		Senior		Graduate	
	No. Marks	*Per Cent*	*No. Marks*	*Per Cent*	*No. Marks*	*Per Cent*	*No. Marks*	*Per Cent*	*No. Marks*	*Per Cent*
A	201	11.56	222	20.94	233	27.54	148	31.56	34	50.00
B	514	29.44	438	41.32	428	50.59	228	48.61	27	39.71
C	568	32.66	266	25.10	121	14.30	64	13.65	2	2.94
D	271	15.64	79	7.45	34	4.02	14	2.99	0	00.00
F	185	10.70	55	5.19	30	3.55	15	3.19	5	7.35
Total	1,739	100.00	1,060	100.00	846	100.00	469	100.00	68	100.00
Mean	76.55	------	81.53	------	84.45	------	85.23	------	87.50	------
Sigma	11.48	------	10.52	------	9.38	------	9.27	------	10.50	------
Skew	—.06	------	—.41	------	—.36	------	—.31	------	—.71	------

that each class is below the immediately lower class in frequency of receiving the lower marks—*F*, *D*, and *C*—with the exception of the graduate *F*, and this is somewhat compensated for by the fact that there are no graduate *D's*. In reference to the higher marks—*B* and *A*—it can be seen that, taking both marks together, each class is above the immediately lower class. Considering *A* and *B* separately, we find the exceptions that the graduate *B* falls below the sophomore *B*, and the senior *B* below the junior *B*. These lower frequencies of *B* are compensated for by high frequencies of *A's*. According to the prevailing conception of marks, *C* is connected with the idea of mediocrity, *D* with deficiency, and *F* with failure; and, on the other hand, *B* is considered to indicate accomplishment above the average, and *A* that which is excellent. It therefore appears here

that increase in scholarship as shown by marks has gone hand in hand with increase in maturity.

It should be noted, further, that the greatest differences between classes are found between the freshman and sophomore, between the sophomore and junior, and between the senior and graduate classes, leaving the junior and senior percentages quite close together in almost every case.

A NORM TO MEASURE INCREASE IN SCHOLARSHIP

On the basis of these data it seemed also worth while to attempt to find some norm from which to measure increase in scholarship. It is sometimes said that, as a result of elimination and other factors, a school group becomes more select and that scholarship increases as the group increases in maturity. If this assumption were true, the freshman group in the college would be the most nearly normal of all the classes; and if the freshman group were more normal than the other classes, it would have a much larger percentage of *C* than *A*. Furthermore, if the classes become more select and if scholarship increases with maturity, this difference between *A* and *C* should decrease in each succeeding class—the percentage of *A* increasing and that of *C* decreasing until finally there will be a larger per cent of *A* than of *C*. In order to study the data in hand from this angle, the percentage of *C* in each class was given a plus sign and that of *A* a minus sign, and the differences were found. The result is seen in Table II.

TABLE II

DIFFERENCES IN PERCENTAGE OF THE MARKS A AND C FOR THE CLASSES OF THE F '25 GROUP

MARKS	CLASSES				
	Freshman	Sophomore	Junior	Senior	Graduate
C	+32.66	+25.10	+14.30	+13.65	+ 2.94
A	−11.56	−20.94	−27.54	−31.56	−50.00
Difference	+21.10	+ 4.16	−13.24	−17.91	−47.06

From this table it can be seen that in the lower classes, freshman and sophomore, the plus signs of the differences show the preponderance of *C* over *A*. The decrease in the size of this difference to zero and the increase thereafter in the numbers having a minus sign is quite abrupt until one comes to the junior class. There is relatively little difference between the numbers found for the junior and senior

classes, but thereafter there is again an abrupt increase. This fact again points to a close agreement in scholarship between these two classes. The results of this phase of the study are in harmony with those of the previous phase, in that there is a considerable increase in scholarship as shown by marks coincident with an increase in maturity.

But there are other phases of the relationship of these classes that should be studied. It might be asked: Is there any relationship between the increasing maturity of these classes and the means of the distributions? And is there a tendency for the marks to group themselves closer together—in other words, for the dispersion to grow less, or vice versa? These questions can be answered for these data by comparing the means and sigmas of Table I. A steady increase of the means from lower class to higher class can be seen there, accompanied by a decrease in the size of the sigmas, with the exception that the graduate sigma is equal to that of the sophomore. Furthermore, it should be noted that the greatest increase in the mean and decrease in the sigma is to be found between the freshman and junior classes, whereas the least difference in these two measurements is found between the junior and senior classes. Again, it is noted also that there are large differences between the senior and graduate classes.

One other method of comparison remains yet to be described—namely, that between the skews of the distribution of the classes found in Table I. It can be seen from the table that all skews are negative—i. e., the distribution is skewed to the left. From the studies that have been made of college marks, this might have been expected. If there were an increase in scholarship coincident with the increase in maturity, this might be assumed to be reflected in the skews. Furthermore, it can be seen that the negative skew increases, in general, in direct ratio with the increase in maturity. In addition, it might be noted that the difference between the skews of the junior and senior classes is much less than that between any other two classes. This gives another evidence of the close association of the junior and senior classes.

In concluding this phase of the study, it might be said that, in general, the relationship between scholastic maturity and scholarship as shown by raw college marks is a parallel one—that is, as maturity increases, scholarship increases. Furthermore, it was seen that the junior and senior classes are, in all measurements, closer together than any two of the other classes, and large differences occur between the freshman and sophomore classes, the sophomore and junior classes, and the senior and graduate classes. Just here the question might

arise: May this parallel in the increase of marks and of maturity be accounted for by the fact that as maturity increases elimination increases also? It is believed that this question is answered, for this study at least, in the data, which is to be reported presently, concerning the present senior group, where elimination is allowed for. Its consideration will therefore be deferred until that part of the study is taken up.

The data which have been studied so far, however, have especial limitations which would prevent one from drawing therefrom definite and final conclusions in reference to this problem, in that the values of the marks—*A*, *B*, *C*, *D*, and *F*—of one distribution cannot be assumed to be equal to the values of the same marks in another distribution. From what is known about the variability of teachers' marks, there is a probability that the values of these marks would vary in different distributions.

With the above limitation in mind, it was decided to attempt to equate the marks in the distribution of Table I. It was thought that a transmutation of these distributions into distributions with a mean of 50 and sigma of 10 would give values of the various letters that would be comparable. This was done by means of a regression formula. The results of the transmutations are shown in Table III.

TABLE III

TRANSMUTED V SCORES OF THE MARKS OF THE F '25 GROUP

MARKS	CLASSES				
	Freshman	Sophomore	Junior	Senior	Graduate
A	66.07	62.80	61.25	60.54	57.15
B	57.36	53.30	50.59	49.75	47.62
C	48.65	43.79	39.92	38.97	38.10
D	39.94	34.29	29.27	28.18	28.57
F	26.87	20.03	13.27	12.00	14.29

These scores should not be confused with percentages. They are numbers that mean nothing except in their relation to one another.

It can be seen from Table III that each of the upper classes is below the immediately lower class in all grades, with the exception that the graduate *D* is the same as the senior, while the *F* of that class goes above the *F* of the junior class. This table also shows that the value of each letter has a tendency to decrease from lower class to upper class, which is in inverse ratio to the increase in maturity. This decrease is especially abrupt until the junior year is reached, where in all marks the values between the junior and senior classes are close

together. Putting this condition into colloquial language, it might be said that the freshman *A* is the "hardest" to make and the graduate *A* the "easiest." Or, if one might turn to an economic conception, the situation might be stated in the law that a large supply of a commodity cheapens its value. Thus the value of the senior high marks is less than that of the freshman, because they are more plentiful. Transferring this conception to the present study, it might be said that if scholarships were low when maturity is low, then all marks would be more difficult to make and would, therefore, be more valuable than they would be if scholarship were high when maturity is low. Furthermore, if scholarship were to increase as maturity increases, marks would become cheaper as maturity increases; or, in other words, their value would decrease.

Now, if the reasoning in the above paragraph is sound, then the values shown in Table III indicate that scholarship increases as scholastic maturity increases.

In conclusion to this section of the study it might be said that all the measurements, percentages, sigmas, means, and *V* scores indicate that in these data scholastic maturity and scholarship increase in direct ratio; and, in addition, the values of all marks decrease as maturity and scholarship increase. Furthermore, there is a close correlation between the junior and senior classes in scholarship.

But these conclusions are tentative and are limited to the data of the study—i. e., the raw marks of the F '25 group as a whole and the *V* scores of the same group. Therefore, this study so far has been one of the achievements of different individuals. Elimination has not been taken into consideration. In taking up now the present senior group, the study will be one of the marks of the same individuals throughout their college career. Thus elimination will automatically be taken care of.

A STUDY OF THE GRADES OF 77 STUDENTS THROUGHOUT COLLEGE

The distributions of the data for the present senior group are found in Table IV. In this group there are 77 students, with a total of 2,613 marks. On account of the paucity of numbers, graduate students have in this phase of the study been omitted. The data will be studied in the same manner as the previous data—i. e., by means of percentages, means, sigmas, skews, and *V* scores.

Upon examination of the percentages of the marks in this table, it can be seen that in the lower letters—*F*, *D*, and *C*—each of the upper classes is below the immediately lower class, with the exception that in *F* the seniors are below the juniors; and in the upper grades—*B*

and *A*—each of the upper classes is above the immediately lower class, with the exception that in *B* the seniors are below the juniors. Furthermore, it can be seen that the freshman and sophomore classes correlate closely, as do the junior and senior classes. Therefore, it may be said that the data show a direct ratio between increase in scholarship and increase in maturity.

If the means of the present seniors are inspected, it can be seen that they increase with maturity, as did the means of the F '25 group in Table I. Here again one sees the tendency to a less sharp increase between the junior and senior classes.

As for the sigma values, a comparison of Tables I and IV will show that the decrease from class to class of the present seniors is, in general, similar to that of the F '25 group, with the exception that there is a sharper decrease in the F '25 values between the freshman and sophomore classes. One sees here the same agreement between the junior and senior classes as was seen in the F '25 group.

TABLE IV

DISTRIBUTIONS BY CLASSES OF THE MARKS OF THE PRESENT SENIORS

MARKS	CLASSES							
	Freshman		Sophomore		Junior		Senior	
	No. Marks	*Per Cent*	*No. Marks*	*Per Cent*	*No. Marks*	*Per Cent*	*No. Marks*	*Per Cent*
A	108	15.47	128	18.29	183	26.22	165	31.91
B	276	39.54	313	44.71	373	53.44	271	52.42
C	225	32.25	193	27.57	108	15.47	64	12.38
D	68	9.74	51	7.29	30	4.30	8	1.55
F	21	3.00	15	2.14	4	.57	9	1.74
Total	698	100.00	700	100.00	698	100.00	517	100.00
Mean	80.47		81.97		85.04		86.12	
Sigma	9.65		9.23		8.00		8.10	
Skew	−.25		−.30		−.20		−.16	

On the other hand, the skew values of the present seniors are quite different from those found in the F '25 group. The two sets of values have practically opposite trends; for, whereas those of the F '25 group increase sharply, those of the present seniors decline, although not quite so sharply. The present tendency for the skews to decrease might be explained by the fact that a large elimination has taken place in the present senior group.

In conclusion, it may be said that the measurements for the present seniors—the mean, sigma, and skew—show that, in general, there is a

direct ratio between the increase in scholarship and increase in maturity. Furthermore, inasmuch as elimination has here been taken into account, the results strengthen the findings regarding the F '25 group. The *V* scores for the present seniors are yet to be examined. They are found in Table V.

A tracing of the *V* scores from class to class will show a decrease in the value of each letter as maturity increases. It can also be seen that this tendency is less evident as one goes down the scale from *A* to *F*, especially between the junior and senior classes, although it becomes more evident between the freshman and sophomore classes.

If one now compares the classes on the basis of the *V* scores, he sees at first glance definite correlations between the two upper classes and between the two lower classes. If he admits the commonly asserted educational belief that elimination has a tendency to increase scholarship, it might be said that here he sees somewhat the working of that principle, in that the two sets of classes have distinctly separated from each other. If, in addition, the assumption be held that decrease in mark values is a corollary to increase in scholarship, these values show more decidedly than the others studied that increase in scholarship is correlated with increase in maturity.

TABLE V

TRANSMUTED V SCORES OF THE PRESENT SENIORS

MARKS	CLASSES			
	Freshman	Sophomore	Junior	Senior
A	64.96	64.12	62.45	60.96
B	54.59	53.28	49.95	48.61
C	44.23	42.45	37.45	36.27
D	33.86	31.61	24.95	23.92
F	18.32	15.36	6.20	5.41

In conclusion to this phase of the study, it may be said that the data showing the progress of the same individuals from class to class give practically the same results as those for different individuals in the various classes. Furthermore, a tendency is found for the junior and senior classes to correlate highly, and the freshman and sophomore classes also, but in a lesser degree.

SUMMARY OF CONCLUSIONS

The conclusions found in this study may now be set down in succinct form.

First, scholarship as shown by college marks increases as scholastic maturity increases.

Second, the greatest differences in the increase in scholarship are found between the sophomore and junior classes and between the senior and graduate classes, with only minor differences between the freshman and sophomore classes.

Third, there is an especially close correlation in the scholarship of the junior and senior classes.

Fourth, the values of marks, as shown by the *V* scores, decrease as maturity increases.

And, finally, the bearing of these conclusions upon the larger problem of differentiation of courses would seem to be that, as far as scholarship as shown by marks is concerned, the main differentiation should come at the junior-college level. It would seem that there is little or no need of differentiation between courses for the junior and senior classes. On the other hand, one might conclude that there should be more need of differentiation between the courses for seniors and those for graduates than is now done at Baylor University and many other schools of the same size and kind. Furthermore, the problem of scholarship among freshmen seems to be a separate one; the results here show that their work is not so closely correlated with that of the sophomores as is that of the juniors with that of the seniors. In other words, the final conclusion is that this study indicates that scholarship in Baylor University might be classified on three levels, one of which has two sub-levels, as follows:

I. Junior Level
   A. Freshman
   B. Sophomore

II. Senior Level (junior and senior classes)

III. Graduate Level.

DEGREES HELD BY THE PRESIDENTS OF STATE TEACHERS COLLEGES

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An examination recently of the current catalogs of eighty state teachers colleges revealed some interesting facts as to the scholastic and honorary degrees held by the presidents of these institutions. It was not possible to distinguish between the earned and the honorary degrees. This distinction was stated in one or two instances, and in other instances it could perhaps be inferred.

The data in the catalogs were not complete in all cases, for in a few instances an advanced degree was listed without the listing of the lower degrees that were quite certainly secured as a prerequisite.

KINDS OF DEGREES

It is surprising that eighteen different degrees are held by the eighty presidents of these state teachers colleges. It is also surprising that two have no degrees listed, though the degrees for other members of the faculty are given. The inference is that these presidents hold no degrees. In some catalogs examined, no degrees are given for any members of the teaching force. The striking variety of the degrees held is exhibited in this summary:

Six kinds of bachelor's degrees are listed,
Four kinds of master's degrees are listed,
Seven kinds of doctor's degrees are given,
One L.I. (Licentiate to Instruct) is listed.

In four cases no bachelor's or master's degrees of any sort are given, but some sort of doctor's degree, presumably honorary, is listed. In two cases some unusual bachelor's and master's degrees are held, other than those commonly considered standard. In seven cases only the bachelor's degree is held. In three cases only the LL.D. is given. The inference might be drawn that if other degrees are held they are such as to provoke little pride in their possession.

NUMBER OF DEGREES HELD

Presidents holding no degrees	2
Presidents holding one degree	12
Presidents holding two degrees	37
Presidents holding three degrees	20
Presidents holding four degrees	9

THE FREQUENCIES OF VARIOUS DEGREES

The presidents of the eighty state teachers colleges included in this survey hold degrees as follows:

No degree is held by	2 presidents
L.I. degree is held by	1 president
A.B. degree is held by	51 presidents
B.S. degree is held by	9 presidents
Ph.B. degree is held by	6 presidents
B.L. degree is held by	3 presidents
LL.B. degree is held by	3 presidents
B.D. degree is held by	2 presidents
M.A. degree is held by	56 presidents
M.S. degree is held by	2 presidents
Ph.M degree is held by	1 president
M.Pd. degree is held by	3 presidents
D.D. degree is held by	1 president
LL.D. degree is held by	22 presidents
Litt.D. degree is held by	2 presidents
L.H.D. degree is held by	1 president
Ped.D. degree is held by	5 presidents
Ed.D. degree is held by	1 president
Ph.D. degree is held by	12 presidents

Four degrees are numerically prominent in the frequencies appearing here—viz., those of Bachelor of Arts, Master of Arts, Doctor of Philosophy, and Doctor of Laws. The first three are standard scholastic degrees that generally must be earned if they are secured at all; the last is nearly always merely honorary. A majority of the presidents possess the master's degree, or have gone beyond it—that is, the latter group has the doctor's degree (Ph.D.) or some work toward that degree. Nearly half of the presidents have two degrees, but in several instances these are two bachelor's degrees, and in some instances they are a bachelor's and an honorary degree.

In most cases the presidents possessing the Ph.D. degree are among the younger men. On the other hand, those possessing the honorary degrees are among the men who have occupied their positions for relatively long periods. There is now a distinct tendency of official boards to choose, in the selection of presidents, men who have secured the training represented by the higher scholastic degrees. The scholarship must be accomplished, however, by a ripe and profitable experience which has demonstrated the administrative ability of the possessor of the higher degrees.

CENTRALIZATION AND FREEDOM IN FRENCH EDUCATION

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Like a huge cobweb, the railways of France reach out from Paris to the frontiers, and every thread of the web converges in that city. This fact affords a striking illustration of the centralization of all functions in the capital city. Paris is the administrative, the economic, and the intellectual center of the nation. An unavoidable policy after the first days of the Revolution, this centralization, which was largely the creation of Napoleon I, is now the recipient of severe criticism, and has certainly become ill-suited to the present conditions in the economic and cultural life of France. Since the Great War the ideas of decentralization and federative regionalism, from time to time agitated formerly, have bobbed up again and have scored some gains. There is, however, no advocacy of destroying the old administrative system, which in more than a century of trials has proved its strength and pliability. Reformers would lessen the powers of the centralized government, not destroy the principle of centralization.

The impetus given to centralization by Napoleon I applied to education as well as to other functions of national government, and to this day education is regarded as still being highly centralized in France. Yet it would be wrong to quote again, as representing the present state of affairs, the remark attributed to Napoleon's Grand Maître de l'Université. He is reported to have stated when looking at his watch one day: "At this time, in all the empire, every student in rhetoric is writing a Latin composition." It must be recalled that he made this assertion more than one hundred years ago. Since that time great changes have taken place in the administration of schools. Even a cursory survey of the status of education in France from the years preceding its reorganization in 1882 to the present will prove that, although the system is indeed centralized, there are permitted enough initiative and freedom to prevent it from becoming tyrannic.

In 1879 the Republicans began to assume direction of the government in France, and the task of giving to the nation a democratic system of education fell to a great member of that party—Jules Ferry. With the passage of the laws of 1882 dates modern education in France. True, the universities in France are very old institutions.

Paris dates from 1200; Toulouse, from 1233; Besançon, from 1287; and Montpellier, from 1283. Their independence and personality, however, had largely been destroyed by Napoleon. True also, the state secondary schools (lycées and collèges communaux), which were created by the Revolution, were given definite status by Napoleon. The education of the common people, nevertheless, had been neglected, and it was the privilege of the Third Republic to work in behalf of them. Therefore, in 1882 laws were passed making it obligatory for every village to establish primary schools for the education of all the people.

These laws rest upon certain definite principles. First, in a democracy the people are sovereign; hence, since therefore there must be an intelligent citizenry, every *commune*, or village, must establish at least one school. Next, because no citizen in a democracy can choose to remain illiterate, attendance must be compulsory. Also, it would be undemocratic to refuse admission to the children of poor parents; hence, the schools must be opened at public expense. Lastly, the question of the personal nature of religion having been settled by the Declaration of the Rights of Man, in 1791, the primary schools—the educational institutions for all the people—must be wholly nonsectarian. It is, by the way, interesting to note that, by law, every Thursday is set aside, in addition to Sunday, so that children may receive religious instruction at the churches of their creeds. These basic principles upon which education in France rests were inherited from the Revolution, and were contended for, and applied by, the Republican party between 1881 and 1883.

Education, the compulsory character of which is admitted by every citizen in a democracy, is too important a matter to be under any monopoly. Therefore, in 1833, the state monopoly over primary schools had been abolished; in 1850, that over secondary schools; and in 1880, the monopoly as it affected the universities. Nevertheless, the abolition of the absolute monopoly of the state did not allow freedom to any one to open schools in France. There the view is that, although the state cannot maintain a rigid, closed control over the schools, education is too important a matter to be left to random volunteers or to persons desiring in part to promulgate propaganda. No one dominant political party or religious group must be permitted to dominate the schools. Since the entire state is affected by the education of boys and girls, it must exercise general oversight of all education. No persons, therefore, can establish a school in France unless the state makes sure that they will impart instruction of a recognized character and standard. Education being a necessity in a democ-

racy, the state is concerned as to what standards are to be observed; the state is also interested in preventing the exploitation of children by teachers who take advantage of the ignorance or the indifference of the families. Hence, although every one is free to teach, provided that he possesses the proper diplomas, there must be insurance that he will fulfill his obligations to the children and to the nation, and, therefore, that he possesses the capabilities and the morality which society regards as a minimum of precaution. Such interference of the state in the matter of private schools is no more of an infringement upon personal freedom than are the regulations of the police department or the health bureau.

The control of the matter of national education brings as a corollary the creation of standard state educational institutions. Because the government of France has long been unified and centralized it has at its disposal such resources in creative minds, organizers, and funds as individuals or small groups cannot duplicate. The national schools have become the most numerous and the best equipped. Yet no monopoly exists, and under such restrictions as are mentioned above any one may open a school. In order to guarantee that all students, whether in the state schools or in private institutions, are placed upon an equal basis, the nation requires all schools to use textbooks which are on the approved list, to observe the same regulations about sanitation, and to prepare students for the same examinations. This practice the nation requires, not because it has the largest number of schools, but because it has assumed the responsibility for insuring the education of all the youth of the country. The reason for such control is democratic in the extreme. Whatever his religious or political affiliation, every candidate for a profession will have to serve the state at large; hence, he must be judged by competitive examinations open to all, irrespective of creed or politics. In that sense, then, the plan is by no means autocratic.

All the examinations for diplomas are uniform throughout the nation, a policy settled by law in 1875. Under the system of uniform examinations, no partiality is shown to any school, state or free; and every candidate is required to submit to a national verification of proficiency. On the boards of examiners for certain state diplomas are teachers from the free schools as well as those from the state schools. Thus there is an impartial desire to uphold the highest standards without favoritism to any group, and no privilege is accorded any one. As a result of the uniformity of examinations, all schools follow the same general program in the instruction of the children. Therefore, though the directors of the free schools are in theory left free in the

choice of methods, procedures, and texts, they are in fact practically obligated to adopt in their schools the programs elaborated by the state. There is an advantage in this. Since the state schools are the more numerous and better supported, their programs are naturally better than would be those of various small groups left to their own devices. The only definite legal restrictions placed upon private schools, however, is that no books may be used which have been forbidden by the Superior Council of Education as being contrary to the morals, the constitution, or the laws of France.

Such a democratic competition as these uniform examinations bring about is a most wholesome rivalry. Between state and free schools there is keen competition to see which can produce the larger number of successful candidates in the examinations for diplomas and degrees. Yet one must not assume that in France there is any undue reverence for degrees and titles. Of course the primary concern of the educational authorities is that of providing the best possible educational opportunities and safeguarding the standards. The rivalry operates to increase the efficiency of instruction in both types of schools, not merely to emphasize the matter of preparation for the examinations. In spite of the fact that there are two types of schools, all degrees are given by the state, upon impartial verification; hence, the system is in this particular also most democratic. There can, then, be no discrimination against the holder of a degree on the ground that his degree is not equal to that held by another person. Education, therefore, is controlled by the state because the production of an enlightened citizenry is a matter of national concern. Although competition is encouraged, there must be national standards of proficiency; consequently no laxity of standards can be permitted.

It is obvious that, contrary to the idea commonly held in America, there is in France freedom in education, and that the power of the state is not used autocratically. Indeed, the whole system is a glass house; the organization, the programs of study, the regulations—everything pertaining to the important matter of education—is watched over and discussed by political parties, by friends and enemies of the system, and by educators. For instance, in 1923, when the question of revising the curriculum of the secondary schools came up, there was a nation-wide discussion of the bill. Since education is under surveillance by teachers and laity, there can be no Napoleonism, no tyranny.

Furthermore, it must be understood that in France there is no all-embracing ministry of national education. As a matter of fact, not all the schools come under the authority of the Ministry of Public In-

struction; the ministries of Commerce and Industry, of Agriculture, of Labor, of War, and so on, have their own schools, elementary and superior, in which they train specialists. With these schools the Ministry of Public Instruction has nothing to do. Of course, it is true that the schools under the supervision of that ministry are the most numerous; yet it must not be assumed that the Minister of Public Instruction is omnipotent over all types of educational institutions in France.

Further evidence that the system is not a rigid mold, as is erroneously assumed in some quarters, lies in the fact that there are numerous types of state schools. First of all, there are the primary schools, whose mission it is to form an enlightened citizenry. Schools must also furnish skilled workers—artisans and foremen; hence, there are technical schools. For the training of scientists, thinkers, scholars—the general staff of the nation—there are the superior schools and universities. In France the organization of schools is adapted to the multifarious aspects of modern life; hence, there are many different types of educational institutions maintained by the state.

For primary, technical, and secondary schools of comparable categories, however, the curricula are the same—that is, in all parts of France the same program of studies is followed in the same types of schools. The reason for this adherence to uniformity is found in the democratic principle of equal opportunities for every French boy and girl. The curriculum for the primary schools, for instance, is the same in the North, the South, the East, and the West. Still, the programs for the various types of schools are not the result of dictatorship on the part of the bureaus responsibile, nor does their promulgation take the form of ukases. Changes made in the programs come about as a result of teachers' meetings and of campaigns in the bulletins of interested corporations of teachers, in the newspapers, or in pedagogical journals. Without such preliminary discussion, no new program is ever instituted. The Ministry, it must be added, is decidedly not averse to a public airing of its recommendations, and takes the initiative in provoking an exchange of ideas between the interested teachers and the representatives of the administration. For example, the question of the reform of the secondary schools, which was the object of unparalleled nation-wide discussion in 1922 and 1923, may be cited. The law reëstablishing the preëminence of classical humanities was passed in May, 1923, but aroused so much opposition that it was abrogated in May, 1925, at which time a new and more pliable system was adopted. In fact, changes are more readily

effected in France than in other nations, where powerful traditions, not laws, have established the curriculum.

Since the secondary schools are concerned with the formation of the mind, rather than with imparting any specialized skills, the curriculum for this type of school is uniform in France. The educators who made the courses of study for the modern secondary schools, in 1925, said specifically, however: "The generation which is now being formed in our lycées and collèges will be asked shortly to fill the places left vacant by the generation decimated by the Great War. These young people will scarcely be out of their teens when they must be qualified to occupy positions of trust in politics, in business, in industry, in the Administration, and in the learned professions. Consequently they must, if they are to be prepared to play their rôles usefully, receive a very thorough general education—such an education as befits young men destined to constitute the framework of the nation." Therefore, it is evident that no dead formalism prevails in the curricula of the secondary schools, which are designed to meet these purposes, and that the bureaus of the Ministry of Public Instruction are alive to the problems of the present and the near future. The men intrusted with the education of the youth of France live, then, in their own times, not in some archaic city of books. Nevertheless, of the programs for the different French schools, those of the lycées and the collèges may be termed the most disinterested, for the function of these institutions is the formation of the mind.

In the universities the recent discoveries of science and the needs of modern life have affected the curriculum. The universities of France are autonomous bodies; they are generally located in the center of a region with a marked personality of its own, and they strive to develop that personality by studying its characteristics and by adapting their programs to the needs of the region. The universities thus reflect the tendency of present-day France toward more and more decentralization, toward a sensible regionalism based upon physical, economic, and human differences. Of their duty to the region whose leaders and servants they are, the universities are well aware, and they are becoming more and more specialized in regional fields. To illustrate, Algier is naturally the center of studies about Northern Africa; Montpellier, about Protestantism; Toulouse, for romance languages and anthropology; Lyons, silk, industrial chemistry, and Oriental affairs; and Bordeaux, about Spain and the colonies.

In even a greater degree the same tendencies toward diversification of programs are found in the technical schools, which are, of course, highly specialized. Likewise, in the primary schools, in

which the same general program is followed everywhere, there are increasingly numerous adaptations to regional needs. The authorities recognize that the young people will not all live in the same environment, and that in specific ways the curriculum must be made to fit the type of community in which is the school. Early specialization is encouraged, and special programs are elaborated and applied in collaboration with the teachers and the local populace. Thus there are in various parts of France such specialized institutions to provide for local needs as schools for hotel keepers, for tanners, for coopers, and for cabinetmakers, to mention but a very few of the numerous kinds of specialized schools. It is plain, then, that not all French children are put through the same mill and given the same course of study, but that, on the contrary, the greatest amount of freedom is provided. A diversification of educational institutions might, indeed, be noted as being one of the most outstanding characteristics of French education. Centralization is a potent force, but freedom, far from being repressed, is encouraged and fostered.

EDITORIALS

WHAT IS A COLLEGE DEGREE WORTH?

There is a law of economics—inflexible, we are told—that a great supply of any commodity cheapens its value. What, then, is a college degree worth? Youth has accepted our advice, "Go to college!" and today mills and spills in and out of campus structures like chicks new-hatched from the incubator. In four weeks—pardon us, years—the fledglings will have grown some feathers of knowledge to serve as a measure of protection from the chill of the world, and will be ready to change from "starting mash" to "growing mash." At the "Commencement" of real life they will receive, tens of thousands of them, in grave convocation with solemnly gowned and hooded dignitaries—the A.B. degree. What is it worth?

There is a strong bear movement in the college-degree market. "Overstocked" is the explanation of the experts. Many speak of the "anæmic values" of degrees. Most trenchant is the remark of George H. Moore,[1] who has many reasons for keeping his finger on the educational pulse, in his statement: "Already the A.B. degree has reached the saturation point of diminishing value. . . . The college A.B. degree should be scrapped, or it should be redeemed. . . ." When degrees are as common as clean collars among polite people, the distinction they, in themselves, confer is at the vanishing point.

Where, then, may degrees with value still be found? We present points in one field only; let others defend their own fortresses. For several reasons a Bachelor's degree from a standard teachers college is yet of unimpaired value.

First, *it represents genuinely professional training.* It is sought, and awarded, in the same spirit that the distinction is given to a doctor, a lawyer, or a minister of the gospel. Of course, if there be institutions established for teacher training that have turned aside from the professional purpose, their degrees are not to be defended. Some, it is said, have thrown wide their doors to all comers, and, to suit these, permit the professional flame to flicker. Those who do this merely offer their degree in competition with the mass production of the most liberal of the "liberal-arts" colleges.

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[1] *What the Colleges Are Doing*, March, 1928. Ginn & Co., Boston, Mass. (Gratis.)

A doctor never forgets he is in medical school; a lawyer knows at all times he is preparing for the law; a minister hears his "call" in every seminary classroom. But a teachers-college student too often is under the impression that he is merely "going to college." Why is he fooled? Or is he?

Second, the degree from a teachers college is frequently, perhaps usually, *carried back to fields of service where distinction is still rarely conferred.* The schools of the nation are by no means manned—and womanned—with college graduates. The degree yet commands, in professional standing, a premium of dignity; it has a most definite and practical effect on promotion and on salary.

Probably, as a mere academic honor, gained too often "with a minimum of education and a maximum of evasion," the A.B. degree has slumped. Compulsory education shoves the masses through, whether this be from the pressure of laws or of social desire. Professional education, however, is still selective. Proper "grading" enhances values in any sale. In a discriminating market a genuine teacher still finds his professional degree powerful.

THE NEW BOOKS ON OUR SHELF

High-School Chemistry. By W. N. MASTERS and L. P. FLOYD (North Texas State Teachers College). Dallas: The Southern Publishing Co., 1927. Pp. ii + 509. Price, $1.60.

The newest text; a most careful selection—primarily for high-school needs rather than for college; abundant practical "industrial" chemistry, which, however, does not become encyclopedic; natural narrative style. A distinctive feature is the clearness with which the electron theory is introduced at the very beginning and utilized as a foundation all the way through. The authors are experienced teachers-college men, and have so absorbed the pedagogical principles of successful teaching that the text has many obvious, and even more subtle, teaching devices. H. A. W.

The Gnome King of Oz. By RUTH PLUMLY THOMPSON. Chicago: The Reilly & Lee Co., 1927. Pp. 282. Price, $1.60.

May we never lose Oz and the thrill of adventure in the Emerald Kingdom!

Secondary School Curricula. By WILLIS L. UHL (University of Wisconsin). New York: The Macmillan Co., 1927. Pp. xx + 582.

This volume treats less of techniques than of the philosophy underlying curriculum construction. The treatment that the author accords his subject is historical in character. His discussions are clearly critical. The book is a distinct aid to serious students of curriculum problems. As a volume supplementary to existing texts that have a marked leaning to the practical side of curriculum construction, the book is a worthy contribution. C. W. K.

Aspects of Thorndike's Psychology in Their Relation to Educational Theory and Practice. By H. GORDON HULLFISH. Columbus: Ohio State University Press, 1926. Price, $1.

This is an examination from the theoretical point of view of the "presentation" of educational psychology by Thorndike, which has been chosen as the "doctrine which has been most influential in directing the work of education." The author finds Thorndike's doctrine inconsistent within itself, too mechanical in certain aspects, and too much inclined, like the Herbartian school, to accept "ideas" as unexplained entities. Herbartians have substituted ideas for the real world. Thorndike's doctrine of common elements explained reason by explaining it away, and this author, moreover, fails to account for organization and synthesis in the learning process, stressing only analysis. He considers the stimulus always as only static and physical. His system fails to utilize general or ultimate educational aims, this being true even of his own "good will" and "high or impersonal or unselfish pleasures." Thorndike, we are told, makes habit formation the only educational guide. Since "Thorndike fails as a dependable leader," there is "an urgent and insistent need for a clear-cut educational psychology." It will surely be unfortunate, whatever one may think of Thorndike's system, if this needed educational psychology turns out to be a theoretical system worked out by educators who are not scientists. We have had enough of that already! J. P.

David Lubin. By OLIVIA ROSSETTI AGRESTI. Boston: Little, Brown & Co., 1922. Pp. vii + 372.

The subtitle, "A Study in Practical Idealism," gives one a fairly good idea of the book. It is the story of the Polish immigrant, David Lubin, who, through his own experiences, learned of the unnecessary conflicts present in society. After he had achieved a financial success, his idealistic nature led him to devote his life to the establishing of coöperation among the farmers of the world. After he had been turned away fourteen times, he obtained the encouragement of King Victor Emmanuel of Italy. This resulted in the establishment at Rome of the International Institute of Agriculture, an effective fact-finding and statistical organization. O. C. A.

Among the Danes. By EDGAR WALLACE KNIGHT (University of North Carolina). Chapel Hill: University of North Carolina Press, 1927. Pp. xiv + 236. Price, $2.

Dr. Knight writes in a breezy fashion of the remarkable civilization achieved in the kingdom of Denmark and of the effective system of education which has transformed Danish life. Various chapters deal with the work of the folk high schools for adults, the colleges for training elementary teachers and high-school teachers. The agricultural colleges and the University of Copenhagen are described. Chapters are added on marriage and divorce, taxes and social welfare. W. W. C.

Creative School Control. By PHILIP W. L. COX (New York University). Philadelphia: J. B. Lippincott Co., 1927. Pp. ix + 320.

A treatment of some important educational problems in a clear and practical way. Chief among these are home room activities, assemblies, and student participation in school administration. Home room activities are outlined grade by grade. Officers, committees, functions are clearly set forth. How student participation is achieved is shown by illustrations taken from various schools. He mentions the difficulties, suggests methods of overcoming them and securing the complete coöperation of students in orderly behavior in school. Other phases of creative control are shown: Classroom procedure, athletics and physical recreation, clubs and societies, student publications, social problems. Bibliographies at the end of each chapter. Z. P. BEACHBOARD.

Supply and Demand in Teacher Training. By B. R. BUCKINGHAM. Bureau of Educational Research, Monograph No. 4, Ohio State University, 1926. Paper. Price, $1.50.

The law of supply and demand does operate with respect to teachers. The author shows how this law works in Ohio. He also shows how many new teachers are required each year and where they come from. He points out that most universities and normal schools are local institutions. A very good report describing problems similar to those found in all the states. W. W. C.

The Nation's Schools. By H. BOMPAS SMITH. New York: Longmans, Green & Co., 1927. Pp. 303. Price, $2.25.

The function of the nation's schools is to help its boys and girls as citizens live more valuable lives by achieving their own right interests. In so far as the schools can further the ideal of right living, involving the powers of freedom, unity, and faith, by appropriate concrete forms, they will do their share in raising the whole level of the nation's life. This, in brief, is the author's theme.

Measurement in Secondary Education. By PERCIVAL M. SYMONDS. New York: The Macmillan Co., 1927. Pp. xii + 588.

Numerous volumes there are that serve to inform the practical school man of educational measurements in the elementary school. To a short list of similar volumes for the secondary field Symonds has added a book that treats in a comprehensive manner of tests for use in the high school. The thesis of the book is "that a truly scientific use of measurements in the high school awaits the development of standardized tests in the high-school subjects," but at the same time the author recognizes informal tests to be of immediate use. A large number of tests that may be used in the high school are described, and their limitations are frankly pointed out. The author's presentation is clear, the statistical matter not too involved for the average reader, and the information regarding publishers of tests and places of publications complete enough to be of service to teachers and administrators who are interested in the many problems of measurement. C. W. K.

The Music Hour (First Book). By OSBOURNE MCCONATHY, W. OTTO MIESSNER, EDWARD BAILEY BIRGE, and MABLE E. BRAY. Newark, N. J.: Silver, Burdett & Co., 1927. Pp. iv + 92.

At last a music reader which is a delight to look at! The book is delightfully and appropriately illustrated, and the typography is excellent for a first reading book. It is the first of a series of music readers for the grades, and is intended for the first or second grade. It approaches music reading through the "song method," and offers four types of songs—rote songs, observation songs, study songs, and reading songs. The material usually appears in the order mentioned in such a way that the material in the reading songs embodies problems prepared in the others. The poems are appropriate, and the book contains many children's classics. The music is tuneful and well arranged and graded. There is a liberal selection of folk songs, the rest being especially written for the work. E. J. G.

Creative Learning and Teaching. By HARRY LLOYD MILLER (University of Wisconsin). New York: Charles Scribner's Sons, 1927. Pp. x + 262. Price, $1.80.

A comprehensive exposition of the "Contract Plan" of instruction.

Elementary Home Economics. By MARY LOCKWOOD MATTHEWS (Purdue University). Boston: Little, Brown & Co., 1926. Pp. xiv + 472. Price, $1.40.

A simple statement including much which the author has used in other publications. M. L. N.

Citizenship Through Problems. By JAMES B. EDMONSON and ARTHUR DONDINEAU. New York: The Macmillan Co., 1927. Pp. xvi + 550.

Another good book for the development of citizenship. The authors set up the claim that their book is "different." The volume is divided into six parts. It contains much useful material and valuable suggestions on teaching the subject. Written in a simple manner and style, the book is intended for use in the junior high school.

First and Second Course in Algebra. By EDWARD I. EDGERTON and PERRY A. CARPENTER. Boston: Allyn & Bacon, 1923-4. Pp. 405, 467.

The first course of a two-course series in algebra. Not essentially different, except, possibly, in the type of exercises, from other texts in the same subject. F. L. W.

The New Physical Education. By THOMAS D. WOOD (Columbia University) and ROSALIND F. CASSIDY (Mills College). New York: The Macmillan Co., 1927. Pp. xiii + 457.

A splendid book for all physical educators' libraries. A. D. B.

China: Yesterday and Today. By EDWARD THOMAS WILLIAMS (University of California). New York: Thomas Y. Crowell Co., 1927. Pp. xviii + 664. Price, $4.50.

This is a book for the general reader, on general topics dealing with China and the Chinese. There is a bit of geography of the popular sort and of history, agriculture, sociology, government, religion, and morals; recent developments in commerce, industries, government, and social life. The appendix presents statistical material on area, population, transportation, banks, the press, measures of length, capacity, etc., climate, and mortality It is readable, interesting, exact, and well organized. C. E. P.

Conditioning Gymnastics. By S. C. STALEY. New York: A. S. Barnes & Co., 1927. Pp. 50. Price, $1.

A book for football coaches to use as preliminary to practice. Hardening exercises for endurance. A. D. B.

Arithmetic Neatness Scale. By F. B. KNIGHT and W. E. MCCLURE. Chicago: Scott, Foresman & Co., 1927. Size, 46x11½. Price, 25 cents.

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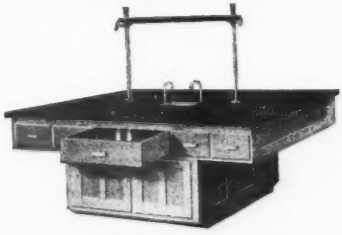

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Teaching Arithmetic in the Primary Grades. By ROBERT LEE MORTON (Ohio University). Newark, N. J.: Silver, Burdett & Co., 1927. Pp. v + 242. Price, $1.80.

In this book the author attempts to bring together the results of scientific experimentation and the principles of educational psychology in such a form that there may be available for the primary teacher detailed and specific suggestions for planning and teaching the early lessons in arithmetic. A helpful book for the primary teacher. Each chapter closes with a list of questions and a bibliography.

F. L. W.

Teaching Arithmetic in the Intermediate Grades. By ROBERT LEE MORTON (Ohio University). Newark, N. J.: Silver, Burdett & Co., 1927. Pp. v + 354. Price, $2.16.

A companion book to the author's *Teaching Arithmetic in the Primary Grades.* The material has been assembled and presented in much the same fashion. It was all "carefully tried and tested before publication." A helpful book for teachers of arithmetic in grades four, five, and six.

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Homemaking a Profession for Men and Women. By ELIZABETH MACDONALD and FORRESTER MACDONALD. Boston: Marshall Jones Co., 1927. Pp. 267. Price, $2.

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Rudiments of Economics. By WILLIAM WALLACE HEWETT. New York: Thomas Y. Crowell Co., 1927. Pp. x + 247. Price, $1.75.

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The Teaching of Junior High School Mathematics. By DAVID EUGENE SMITH and WILLIAM DAVID REEVE (Columbia University). Boston: Ginn & Co., 1927. Pp. viii + 411. Price, $2.

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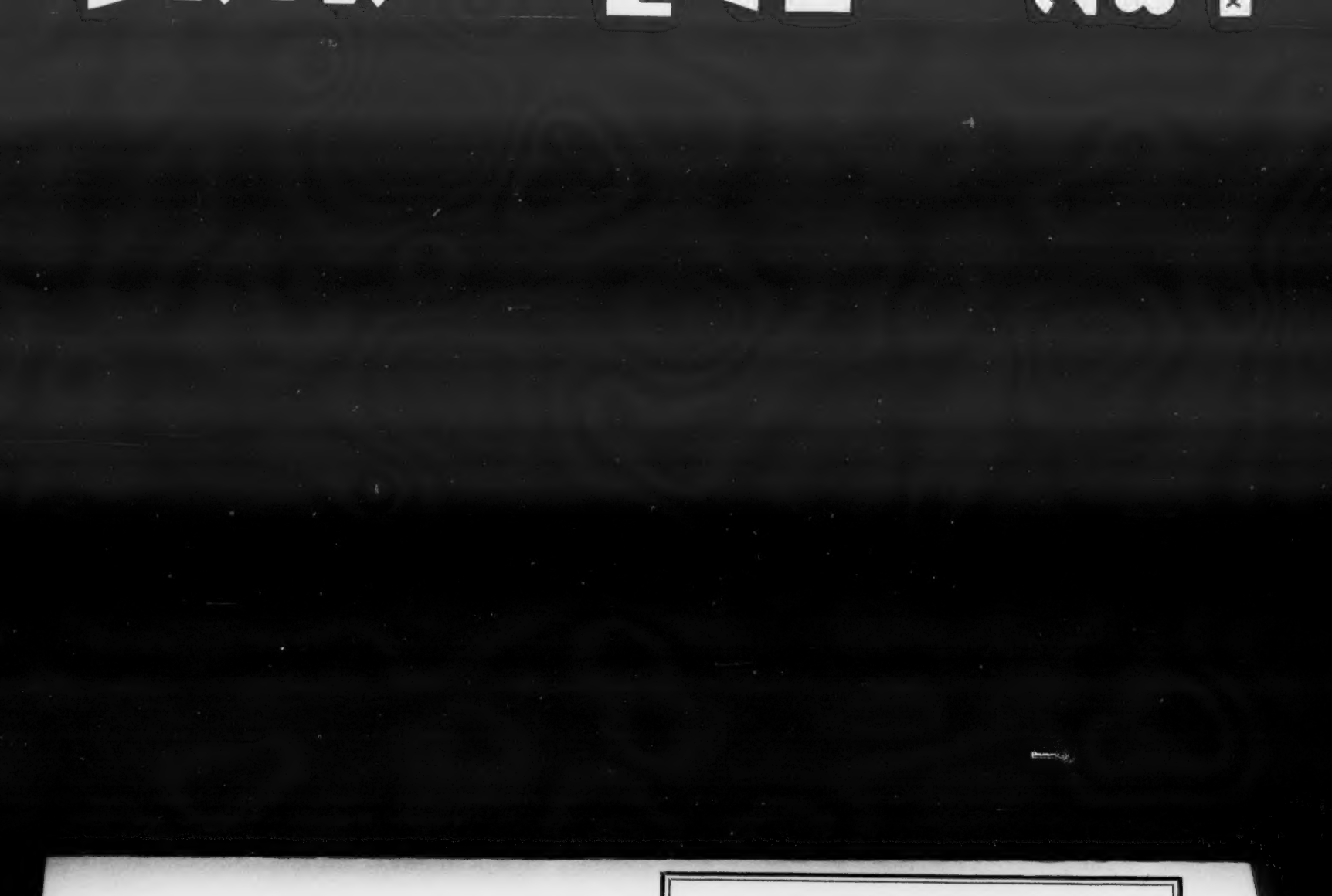
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